

RECORD OF DECISION FOR THE PROPOSED ISSUANCE
OF A SECTION 10(A)(1)(B) INCIDENTAL TAKE PERMIT

Attachment 1

**RESPONSES TO COMMENTS ON THE DRAFT EIS
FOR THE
DESCHUTES BASIN HCP
KLAMATH, DESCHUTES, JEFFERSON, CROOK, WASCO,
AND SHERMAN COUNTIES, OREGON**

AS PUBLISHED IN THE DESCHUTES BASIN FEIS

APPENDIX 1-E

Appendix 1-E
Response to Comments

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Acronyms and Abbreviations

1855 Treaty	Treaty with the Tribes of Middle Oregon (1855)
af	acre-feet
APE	area of potential effect
applicants	Deschutes Basin Board of Control member districts (i.e., the Arnold, Central Oregon, Lone Pine, North Unit, Ochoco, Swalley, Three Sisters, and Tumalo Irrigation Districts) and the City of Prineville
BiOp	biological opinion
CFR	Code of Federal Regulations
CEQ	Council on Environmental Quality
covered activities	Take of the covered species that may occur incidental to the storage, release, diversion, and return of irrigation water by the Deschutes Basin Board of Control member districts, and groundwater withdrawals, effluent discharges, and surface water diversions by the City of Prineville
covered species	Oregon spotted frog (<i>Rana pretiosa</i>), bull trout (<i>Salvelinus confluentus</i>), Middle Columbia River steelhead trout (<i>Oncorhynchus mykiss</i>), sockeye salmon (<i>Oncorhynchus nerka</i>)
CTWS	Confederated Tribes of Warm Springs
CWA	Clean Water Act
DBBC	Deschutes Basin Board of Control
DOI	U.S. Department of the Interior
Draft EIS	draft environmental impact statement
Draft HCP	Draft Deschutes Basin Habitat Conservation Plan
EA	environmental assessment
ESA	Endangered Species Act
FLP	form letter plus
FWS	U.S. Fish and Wildlife Service
HCP	habitat conservation plan
HCP Handbook	<i>Habitat Conservation Planning and Incidental Take Permit Processing Handbook</i>
ID	irrigation district
IRMP	Integrated Resources Management Plan
ITP	incidental take permit
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
ODEQ	Oregon Department of Environmental Quality
OR	Oregon
Ordinance 80	Tribal Water Code
OWRD	Oregon Water Resources Department
Reclamation	Bureau of Reclamation
RM	river mile
ROD	Record of Decision
SHPO	State Historic Preservation Office
the Services	U.S. Fish and Wildlife Service and the National Marine Fisheries Service
U.S.C.	United States Code

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Introduction and Approach to Response to Comments

Introduction

The U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) (referred to collectively as the Services) received incidental take permit (ITP) applications on August 30, 2019, from the Deschutes Basin Board of Control (DBBC) member districts (i.e., the Arnold, Central Oregon, Lone Pine, North Unit, Ochoco, Swalley, Three Sisters, and Tumalo Irrigation Districts [IDs]) and the City of Prineville (referred to collectively as the applicants) in accordance with the requirements of the Endangered Species Act, as amended (ESA) (16 United States Code [U.S.C.] § 1531 *et seq.*). The applicants prepared the Draft Deschutes Basin Habitat Conservation Plan (Draft HCP) in support of the ITP applications and are seeking authorization for take of the federally threatened Oregon spotted frog (*Rana pretiosa*) and bull trout (*Salvelinus confluentus*) from FWS, and take of the federally threatened Middle Columbia River steelhead trout (*Oncorhynchus mykiss*) and the non-listed sockeye salmon (*Oncorhynchus nerka*) from NMFS. Hereafter, these four species are collectively referred to as the covered species.

The ITPs, if issued, would authorize take of the covered species that may occur incidental to the storage, release, diversion, and return of irrigation water by the DBBC member districts, and groundwater withdrawals, effluent discharges, and surface water diversions by the City of Prineville (covered activities).

The Draft HCP specified the impacts that would likely result from the taking of covered species, and describes the steps the applicants will take to minimize and mitigate such impacts. The Draft HCP also discussed alternative actions to the taking that were considered by the applicants and the reasons why such alternatives are not being analyzed further. The Draft HCP described the covered species' life history and ecology, and the HCP's biological goals and objectives, adaptive management actions, monitoring, and funding assurances.

In response to the ITP applications, FWS, as the lead federal agency, prepared a draft environmental impact statement (Draft EIS) in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 U.S.C. § 4321 *et seq.*). The proposed federal action being evaluated in the EIS is the issuance of ITPs in response to the ITP applications from the applicants. The ITPs would authorize incidental take of the covered species that could result from covered activities over the permit term. The Draft EIS analyzed the proposed action and a reasonable range of alternatives to the proposed action. In total, four alternatives were analyzed in the Draft EIS, including a no-action alternative. The environmental consequences of each alternative were analyzed to determine if significant impacts on the human environment would occur.

In accordance with the ESA and NEPA, the Services circulated the Draft HCP and Draft EIS for public review and comment on October 4, 2019. This appendix describes the public review process; comments received on both the the Draft HCP and Draft EIS; the general approach to responding to comments; and the format, content, and organization of, and terminology used for responding to comments. It also provides responses to the comments received, details on modifications to the proposed action and action alternatives, and any revisions that have been made between the Draft HCP and Final HCP and Draft EIS and Final EIS.

Summary of Draft HCP and Draft EIS Public Review Process

The Draft HCP and Draft EIS were released by the Services for public review and comment on October 4, 2019 (84 *Federal Register* 53164 and 53114), opening a 45-day public review and comment period. However, in response to public requests, the Services granted a 15-day extension (84 *Federal Register* 58169 and 61026) to the review and comment period, thereby increasing the public review and comment period to 60 days. The Services accepted comments via online submission or hardcopy mail provided the comments were received by 11:59 p.m. Eastern Standard Time on December 3, 2019. The Services also held two open house public meetings in Bend and Prineville, Oregon, on October 15 and 16, 2019, where computers were available for attendees to use and submit comments.

Comments were submitted either in form letters or unique letters. Form letters are letters based on a standard template, rather than letters that were independently composed and, therefore, contain the same content. Three separate form letter variants (FL-1, FL-2, and FL-3) were received. If unique content was identified in the form letters, the letters were coded as a form letter plus (FLP) and the unique comments were reviewed, considered, and responded to separately, providing the comment related to substantive issues on the Draft HCP and Draft EIS. Unique letters are letters that were independently composed and that contain unique comments submitted by a single commenter or multiple commenters. By the December 3, 2019 deadline, the Services received 224 unique letters and 1,387 form letters of which 71 were classified as an FLP from federal, state, and local agencies and governments; Tribes; organizations; and the general public.

Comments on the Draft HCP and Draft EIS covered a broad range of policy and environmental issues. Major topic areas that elicited frequent comments included process, adequacy of the analysis, consideration of alternatives, additional information requests, and human environment impacts. The responses to comments provided in this appendix represent the Services' best effort to carefully and objectively review and consider the comments and supporting evidence provided by the commenters.

Regulatory Context

The purpose of public review of the Draft HCP and Draft EIS is to evaluate the adequacy of the environmental analysis for compliance with ESA and NEPA and to provide comments on the proposed action. As such, one purpose of the responses to comments contained in this appendix is to address those substantial environmental issue(s) raised by commenters. This typically requires clarification of points contained in the Draft HCP and Draft EIS released in October 2019. Lead agencies are not obligated to undertake every suggestion, provided that the agency responds to substantive environmental issues and makes a good-faith effort at disclosure in a reasoned way. Given this, the Services are not required to respond to comments unrelated or not germane to the alternatives or the evaluation of potential environmental impacts contained in the Draft HCP or Draft EIS.

Ultimately, the Services will each make a decision on about whether to issue ITPs to the applicants, relying on the statutory and regulatory criteria for ITPs set forth in ESA and its implementing regulations. The Services' decisions will also be informed by the analyses and findings in the Final HCP and Final EIS.¹ To support our final permit decisions, the Services will each independently

¹ Although the Services do not solicit comments on the Final EIS and are not required to respond to any comments received during this period, the Services will consider the comments before making our final permit decisions.

prepare an ESA Section 10 findings document and an ESA Section 7 Biological Opinion (BiOp) on the proposed ITP actions prior to issuing separate records of decision (RODs).

Approach to Responding to Comments Received on the Draft HCP and Draft EIS

The following summarizes the Services' approach took when identifying, considering, and responding to the comments received on the Draft HCP and Draft EIS.

- The Services identified, considered, and responded to comments contained in each letter providing the comments related to substantive issues on the Draft HCP and Draft EIS, were within the scope of ESA and NEPA, and related to the environmental analysis contained in the Draft HCP and Draft EIS. If the substance of the letter did not meet these criteria, the comment was not grouped, summarized, or responded to.
- The Services identified, considered, and responded to information contained in an attachment to a comment letter if the attachment commented on substantive issues related to the environmental analysis contained in the Draft HCP and Draft EIS. If the attachment did not meet this criterion, the comment was not grouped, summarized, or responded to, but was reviewed and circulated to authors for reference while responding to comments.
- When reviewing the letters received, the Services initially determined whether a letter was a unique letter or a form letter. Out of the 1,387 form letters received, three master form letters were identified on which all other form letters were based; the contents of these master form letters were reviewed, considered, and responded to. If unique content was identified in form letters, outside of what was contained in the master form letters, the letters were classified as an FLP and the unique comments identified were reviewed, considered, and responded to separately.
- On initially reviewing each comment, a theme (e.g., process) and related subtopic (e.g., length of comment period) was allocated to each comment to allow grouping of like comments. Each comment or related group of comments was then summarized and responded to. The corresponding letter reference (refer to the *Indices of Commenters* section of this appendix) for which each comment summary is based are also provided so the reader can identify the commenter. The allocated references provided by the Services are unique to each commenter and do not relate to any numbers or references provided by the commenter in their letters. Any commenter who submitted a form letter with unique content has been allocated two letter references, which relate to the form letter (FL) they submitted, and the unique content identified as an FLP.
- Some commenters submitted multiple copies of their comment letters. To be thorough, the Service reviewed all submissions from a single commenter to determine if the submissions were duplicative in nature or whether a commenter had submitted a variant to their previous submission. If the Services identified unique comments in the duplicative submission, the unique comments were coded and grouped as such. However, if no unique comments were identified between the versions, then only one version of the duplicative submission was coded. By employing this strategy, the Services are confident that it has completely reviewed and responded to all comments from the same commenter.
- The Services reviewed the comments in the exact form they were provided by commenters. This included review of comments with misspellings, grammatical errors, or writings presented in the

comments that were not clearly understood. Every attempt was made to understand the commenters' comments to provide a response; however, the Services cannot infer meaning or intent of comments.

- During the process of reviewing and responding to comments on the Draft HCP and Draft EIS, revisions and clarifications were made to the Final HCP and Final EIS. These changes included corrections to editorial errors and omissions, as well as clarifying text and adding supporting information. These changes are noted in responses, where required, and are summarized in Final EIS Chapter 1, *Purpose and Need*.
- The Responses to Comments section of this appendix presents all comment summaries and their associated responses, and it is organized by comment theme and subtopic to assist with navigation. To further support commenters identify responses to their comments, each unique comment letter reference, as presented in the *Indices of Commenters* section, is referenced against each corresponding comment summary and response. Where reference is made in this appendix to the Draft HCP or Draft EIS, the content and reference remains the same in the Final HCP and Final EIS, unless otherwise noted. Any revisions or updates made between draft and final versions of these documents are explicitly referenced in the responses, as required.

Organization of Appendix 1-E

The remainder of this appendix is organized as follows.

- *Introduction and Approach to Responses to Comments* (this section), describes the public review process; public comments received on the Draft HCP and Draft EIS; approach applied to reviewing and responding to comments; and the format, content, and organization of and terminology used in this appendix.
- *Indices of Commenters* provides a list of the comment letter references and names of commenters, when provided, for federal, state, and local agencies and governments; tribes; organizations; and the general public. These indices are organized by commenter type, commenter name, and letter reference. Readers should use these indices to identify the letter reference or references associated with their submissions and then locate the responses to their comments in the *Responses to Comments* section of this appendix. Any commenter who submitted a form letter with unique content has two letter references, which relate to the FL they submitted, and the unique content identified as an FLP.

Copies of the comment letters submitted to the Services are not included in this appendix. All comment letters can be accessed and viewed at <https://www.regulations.gov> and by doing the following.

- Enter Docket ID: FWS-R1-ES-2019-0091 into the home page search bar.
- In the area for the Draft Environmental Impact Statement and Draft Habitat Conservation Plan, select the "Open Docket Folder."
- Scroll down to the "Comments" area and select "View All" to locate individual letters submitted. All commenter letters have been entered by name and can be sorted alphabetically.

Indices of Commenters

The following indices list the comment letter reference and name of commenters, when provided, for federal, state, and local agencies and governments; tribes; organizations; and the general public, and include form letters and FLPs. These indices are organized by organization, commenter name, and letter reference. Readers should use these indices to identify the letter reference or references associated with their submissions and then locate the responses to their comments in the *Responses to Comments* section of this appendix. Indices are organized by commenter type as described in Table 1. Tables 2 through 6 list the commenters per index category and includes the letter reference ID, commenter name, and organization name, if applicable. Tables 7 and 8 list the form letters and FLP submissions. Any commenters who submitted a form letter with unique content has two letter references that, which relate to the form letter (i.e., FL-1, FL-2, and FL-3) they submitted and the unique content identified as an FLP.

Table 1. Summary of Indices

Index ID	Commenter Type
FED	Federal Agency
STATE	State Agency
LOCAL	Local Agencies and Governments
TRIBE	Native American Tribes
ORG	Organizations
FL	Form Letter
FLP	Form Letter Plus
GP	General Public

Table 2. Federal Agencies

Letter Reference	First Name	Last Name	Organization Name
FED-1	Jill	Nogi	U.S. Environmental Protection Agency
FED-2	Kristen	McBride	U.S. Forest Service

Table 3. State Agencies

Letter Reference	First Name	Last Name	Organization Name
STATE-1	Kyle	Gorman	Oregon Water Resources Department
STATE-2	Jennifer	Wigal	Oregon Department of Environmental Quality
STATE-3	Stephanie	Page	Oregon Department of Agriculture
STATE-4	Michael	Harrington	Oregon Department of Fish and Wildlife

Table 4. Local Agencies and Governments

Letter Reference	First Name	Last Name	Organization Name
LOCAL-1	Peter	Gutowsky	Deschutes County
LOCAL-2	Anonymous	Anonymous	Jefferson County Soil & Water Conservation District
LOCAL-3	Mae	Huston	Jefferson County

Table 5. Native American Tribes

Letter Reference	First Name	Last Name	Organization Name
TRIBE-1	Josh	Newton	The Confederated Tribes of the Warm Springs

Table 6. Organizations

Letter Reference	First Name	Last Name	Organization Name
ORG-1	George	Wuerthner	RESTORE OUR DESCHUTES
ORG-2	Michael	Eisele	Coalition for the Deschutes
ORG-3	Sarah	Cloud	Deschutes River Alliance
ORG-4	Mathieu	Federspiel	Juniper Group Sierra Club
ORG-5	Geri	Hauser	League of Women Voters of Deschutes County
ORG-6 ^a	Priscilla	Macy	Oregon Outdoors Coalition
ORG-7	Thomas	O'Keefe	American Whitewater
ORG-8	Priscilla	Macy	Oregon Outdoors Coalition
ORG-9	Gary	Farnam	Sunriver Anglers
ORG-10	Kate	Fitzpatrick	Deschutes River Conservancy
ORG-11	Mike	Riley	The Environmental Center
ORG-12	Paul	Dewey	Central Oregon LandWatch
ORG-13	George	Endicott	Central Oregon Cities Organization
ORG-14	Chandra	Ferrari	Trout Unlimited
ORG-15	Kimberley	Priestley	WaterWatch of Oregon and Center for Biological Diversity
ORG-16	Anonymous	Anonymous	Upper Deschutes Watershed Council
ORG-17	Doug	Heiken	Oregon Wild
ORG-18	Mary Anne	Cooper	Oregon Farm Bureau
ORG-19	Gail	Snyder	COALITION FOR THE DESCHUTES
ORG-20	Mike	Taylor	Wild River Owners Association
ORG-21	Brad	Chalfant	Deschutes Land Trust
ORG-22	Joanne	Richter	Great Old Broads for Wilderness, Central OR Bitterbrush Broads
ORG-23	Paul	Lipscomb	Oregon Land and Water Alliance
ORG-24	Megan	Hill	Portland General Electric

^a ORG-6 is not referenced in the remainder of this appendix as it was a duplicate of letter ORG-8.

Table 7. Form Letters

Letter Reference
FL-1
FL-2
FL-3

Table 8. Form Letter Plus

Letter Reference	First Name	Last Name	Letter Reference	First Name	Last Name
FLP-1	Tiana	Fabiana	FLP-40	Jesse	Kingdon
FLP-2	Andrew	Coughlin	FLP-41	John	Fischer
FLP-3	Amanda	Dalrymple	FLP-42	Christine	Mellon
FLP-4	Devon	Decembre	FLP-43	Terry	Miller
FLP-5	Dana	Wolff	FLP-44	Jordan	Real
FLP-6	Renee	Wirth	FLP-45	Jamie	Dawson
FLP-7	Karissa	Viebeck	FLP-46	Harvey	Hillis
FLP-8	Erik	Richardson	FLP-47	Tim	Etlick
FLP-9	Kelli	Cromsigt	FLP-48	Matthew	Ramsey
FLP-10	Hayley	Anderson	FLP-49	Caroline	House
FLP-11	Lisa	Windom	FLP-50	Scott	Buchholz
FLP-12	Don	LeBart	FLP-51	Andrew	Skolnick
FLP-13	Kurt	Brockner	FLP-52	John	Amoroso
FLP-14	Aaron	Wille	FLP-53	Nathaniel	Merrill
FLP-15	Erik	Skoog	FLP-54	Donna	Harris
FLP-16	Mike	Gaglianese	FLP-55	Rebecca	Kay
FLP-17	Kent	Pressman	FLP-56	Donald	O'Brien
FLP-18	Jeff	Boyer	FLP-57	John	Bauman
FLP-19	Elizabeth	Stauder	FLP-58	Forrest	Peck
FLP-20	Robert	VanBishler	FLP-59	Rod	Bonacker
FLP-21	Willam	Carwile	FLP-60	Edward	Denson
FLP-22	Peter	Necarsulmer	FLP-61	Dorothy	Wylie
FLP-23	Tessa	Miles	FLP-62	Kevin	Mooney
FLP-24	Dan	Puffinburger	FLP-63	Geoffrey	Bergen
FLP-25	Bryon	Salaz	FLP-64	Barb	Morris
FLP-26	Michele	McKay	FLP-65	Mike	Reed
FLP-27	Dorothy	Wile	FLP-66	Caleb	Bryce
FLP-28	Carol	Lemley	FLP-67	Karen	Lillebo
FLP-29	Chelsy	McNeil	FLP-68	David	Bredendick
FLP-30	Jesse	Rosenzweig	FLP-69	Vail	Borne
FLP-31	Kevney	Dugan	FLP-70	Kyle	Collins
FLP-32	George	Conlan	FLP-71	Patrick	Buresh
FLP-33	Sarah	Bodo			
FLP-34	Kent	Pressman			
FLP-35	Debra	Sprester			
FLP-36	Zachary	Sauer			
FLP-37	Phil	Hager			
FLP-38	Hunter	Parrott			
FLP-39	Mikal	Lilly			

Table 9. General Public

Letter Reference	First Name	Last Name	Letter Reference	First Name	Last Name
GP-1	Jean	Publieee	GP-40	Lewis	McFarland
GP-2	Kim	Brannock	GP-41	Ben	Johnston
GP-3	Anonymous	Anonymous	GP-42	Susan	Barmeyer
GP-4	Kent	Brenner	GP-43	Bryan	Greene
GP-5	Andy	Prather	GP-44	Michael	Giamellaro
GP-6	Jeff	Komar	GP-45	Lex	Shapiro
GP-7	John	Butler	GP-46	Brooks	Foster
GP-8	Trey	Frye	GP-47	Orion	Junkins
GP-9	Erich	Weidenkeller	GP-48	Nathaniel	Merrill
GP-10	Travis	Mack	GP-49	Blake	Lund
GP-11	Mikhail	Djukanovich	GP-50	Isabel	Svevens
GP-12	Jack	White	GP-51	Phillip	Hagen
GP-13	Mike	Mallin	GP-52	Audrey	Roth
GP-14	Ida	Gurule	GP-53	Finley	Treu
GP-15	Anonymous	Anonymous	GP-54	Carly	Cameron
GP-16	Ryan	Fogelman	GP-55	Ethan	Cunningham
GP-17	Pete	LeRoy	GP-56	Poppy	Donnell
GP-18	Craig	Heaton	GP-57	Caitlin	Houston
GP-19	Amanda	Hardin	GP-58	Ellie	Safford
GP-20	Laura	Grayson	GP-59	Arianna	Larson
GP-21	Tony	Newbill	GP-60	Ziann	Simpson
GP-22	Clayton	Chambers	GP-61	Cameron	Wescott
GP-23	Peter	Baer	GP-62	Jasper	Sparks
GP-24	Tony	Newbill	GP-63	Biancha	Emery
GP-25	Brian	Manselle	GP-64	Hazel	Donnelly
GP-26	Brandon	Shotwell	GP-65	Lincoln	Riverman
GP-27	Tony	Newbill	GP-66	Finley	Hasler
GP-28	Tony	Newbill	GP-67	Violet	Rodhouse
GP-29	Mark	Lemley	GP-68	Ben	Davison
GP-30	Jean	Publieee	GP-69	Ayu	Larsen
GP-31	Peter	Geiser	GP-70	Sophia	Balk
GP-32	John	Schubert	GP-71	Eli	Basurto
GP-33	Nancy	Burgon	GP-72	David	Shanks
GP-34	Craig	Lacy	GP-73	Manuel	Baptista
GP-35	Bill	Marlett	GP-74	Richard	Kovacs
GP-36	Tomas	Amodio	GP-75	Christina	Snyder
GP-37	Kyle	Watt	GP-76	Michael	Harves
GP-38	Eva	Eagle	GP-77	Adam	Harvey-Kelly
GP-39	Wendy	Hutchens	GP-78	Chris	Casad

Letter Reference	First Name	Last Name	Letter Reference	First Name	Last Name
GP-79	Charlie	Quinn	GP-120	Bonnie	Campbell
GP-80	Brian	Crockford	GP-121	Bradley	Smith
GP-81	Drew	Erickson	GP-122	George	Wuerthner
GP-82	Earl	Alderson	GP-123	Rynda	Clark
GP-83	Anonymous	Anonymous	GP-124	Boris	Boris
GP-84	John	Casey	GP-125	Alex	Murray
GP-85	Robert	Rayner	GP-126	Jayson	Bowerman
GP-86	Earl	Haramaki	GP-127	Tim	Overland
GP-87	Eric	Staley	GP-128	Chris	Salaz
GP-88	Rebecca	Gilson	GP-129	Susan	Stribble
GP-89	Emily	Craybill	GP-130	Jay	Dicharry
GP-90	Kathleen	Schroeder	GP-131	Jodi	Mauldin
GP-91	Cooper	Morrow	GP-132	Zachary	Price
GP-92	Jeremy	Huwe	GP-133	Mark	Buckley
GP-93	J.J.	Howard	GP-134	Nathan	Boddie
GP-94	Jacob	Dodd	GP-135	Riley	Kirby
GP-95	Wayne	Chubb	GP-136	Dean	Boyle
GP-96	John	Hamburg	GP-137	Robin	Vora
GP-97	Eric	Miller	GP-138	Natalie	Danielson
GP-98	Troy	Leedy	GP-139	Mary Ellen	Collentine
GP-99	Monica	Helms	GP-140	Craig	Weigand
GP-100	Cairn	O'Donnell	GP-141	Lee Ann	Ross
GP-101	Jodell	Born	GP-142	Rob	Galyen
GP-102	Craig	Laurie	GP-143	Gary	Boldt
GP-103	Amanda	Studdard	GP-144	Michael	Zapp
GP-104	David	Burrus	GP-145	Jeffrey	Richardson
GP-105	Ryan	Kovach	GP-146	Mickey	Killingsworth
GP-106	Lled	Smith	GP-147	Phil	Fine
GP-107	Myria	Gautreaux	GP-148	Kelsey	Ward
GP-108	Tom	Bell	GP-149	Richard	Rushton
GP-109	Christie	Dobson	GP-150	Gary	Harris
GP-110	A.	Briggs	GP-151	Mike	Weber
GP-111	Brad	Asmus	GP-152	Neil	Baunsgard
GP-112	Stephen	Junkins	GP-153	Grant	Pynes
GP-113	Kyle	Anderson	GP-154	Wade	Flegel
GP-114	Scott	Baker	GP-155	Laurie	Doherty
GP-115	Zach	Koepke	GP-156	Kevin	Richards
GP-116	Tucker	Ruberti	GP-157	Martin	Richards
GP-117	Anonymous	Anonymous	GP-158	Samuel	Lowry
GP-118	Timothy	Dragila	GP-159	Elise	Wolf
GP-119	Scott	Gerber	GP-160	Janice	Flegel

Letter Reference	First Name	Last Name	Letter Reference	First Name	Last Name
GP-161	Moey	Newbold	GP-178	Anonymous	Anonymous
GP-162	Nancy	Klatt	GP-179	Kathleen	Roche
GP-163	Michael	McLandress	GP-180	Haley	Smith
GP-164	Reese	Mercer	GP-181	Eileen	Harrington
GP-165	Spencer	Brinson	GP-182	Christian	Blady
GP-166	Thomas	Warner	GP-183	Joanne	Brown
GP-167	Stanley	Webb	GP-184	Robert	Pederson
GP-169	Stu	Garrett	GP-185	Dustin	Balderach
GP-170	Shawn	Chesley	GP-186	Michael	Jasa
GP-171	Rebekah	Ratcliff	GP-187	Kimberly	Paxton-Hagner
GP-172	William	Kuhn	GP-188	Gabriel	Parr
GP-173	Judy	Clinton	GP-189	Jim	Powell
GP-174	Brandon	Kave	GP-190	Steven	Aguilu
GP-175	Matt	Goetz	GP-191	Sylvia	McFarland
GP-176	Amy	Hart	GP-192	Yancy	Lind
GP-177	Alex	Scagliotti			

Response to Comments Overview

The Services are responsible for complying with ESA and NEPA requirements. A Final HCP and EIS is supposed to inform decision-makers before a decision is made. As such, the Services objectively considered all comments made and received during the public meetings and comment period (40 Code of Federal Regulations [CFR] § 1503.4).

The purpose of each response to a comment on the Draft HCP and Draft EIS is for the lead agency to address the substantive environmental issue(s) that may be raised by each comment. According to the regulations, possible responses include modifying the alternatives, including the proposed action; developing and evaluating new alternatives; making factual corrections; or explaining why the comments do not warrant further agency response (40 CFR § 1503.4). Another purpose of public review of the Draft HCP and Draft EIS is to evaluate the adequacy of the environmental documents and their analyses for compliance with NEPA (40 CFR § 1503.4).

Within this appendix, the Services provide responses to comments, assertions, and questions related to the proposed action and action alternatives and the analyses in the Draft HCP and Draft EIS. The Services have not addressed comments that are beyond the scope of the environmental analysis in the EIS or that do not raise environmental concerns. Council on Environmental Quality (CEQ) guidelines state that comments on an EIS “shall be as specific as possible and may address either the adequacy of the statement or the merits of the alternatives or both” (40 CFR § 1503.3(a)).

Multiple commenters provided a variety of personal and professional background information in their comments. This type of information is not considered to be a substantive comment on the Draft HCP or Draft EIS; therefore, it does not require a response. The Services do, however, acknowledge receipt of this information. Additionally, commenters often paraphrased or quoted directly from the Draft HCP or Draft EIS. Again, the Services acknowledge receiving this information but have provided responses only to the portions of the comments that raised substantive environmental issues or that directly applied to the Draft HCP or Draft EIS. The Services also acknowledge receipt of comments in general support of one or more of the action alternatives, as well as those in general opposition of the proposed action and action alternatives.

While each response addresses the public comments received, these comments often related to additional subjects addressed in other responses. Accordingly, responses reference related responses, as appropriate, where recurring comments and common themes overlap with other subject matter areas.

Where reference is made within this appendix to the Draft HCP or Draft EIS, the content and reference remains the same in the Final HCP and Final EIS, unless otherwise noted. Any revisions or updates made between the draft and final documents are explicitly referenced in the responses, as required.

This section includes, for ease of reference, a table of contents on the following page to help guide readers to specific subject areas. The table of contents is based on the common themes and subtopics found in the comments that were received.

Response to Comments on the Draft HCP

1 Process

Endangered Species Act Procedural Requirements

HCP-1.1 Independent Analyses by Services

One commenter suggested that the Services have not conducted independent analyses necessary to meet the ITP issuance standards, including verifying the applicants' financial, legal, engineering, and scientific representations.

Commenters

ORG-12

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comment on both documents before making permit decisions on the ITP application. Each Service will make separate findings regarding compliance with Section 10 of the ESA and will decide whether to issue ITPs based on the Final HCP. In order for the Services to issue an ITP, the following criteria must be met: (1) the taking will be incidental to otherwise lawful activities; (2) an applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) the applicant will carry out any other measures the Services require as necessary or appropriate for the purposes of the plan. 50 CFR § 17.32(b)(2); 50 CFR § 222.307(c)(2).

HCP-1.2 Sufficiency of Information to Make Findings in Support of ITPs

One commenter stated that the Draft HCP provides insufficient information for the Services to make legally required findings to issue the ITPs.

Commenters

ORG-12

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comment on both documents before making permit decisions on the ITP application. Each Service will make separate findings regarding compliance with Section 10 of the ESA and will decide whether to issue ITPs based on the Final HCP.

HCP-1.3 Endangered Species Act Section 7 Consultation

One commenter stated that the ESA requires the Services to consider impacts from water tourism through the Section 7 consultation process.

Commenters

GP-27

Response

Before making permit decisions, the Services will each independently conduct a “jeopardy analysis” and prepare an ESA Section 10 findings document and ESA Section 7 BiOp addressing whether the proposed action is likely to jeopardize the continued existence of listed species in the wild or to destroy or adversely modify designated critical habitat for listed species. The BiOps will evaluate the environmental baseline, the condition of the listed species or its designated critical habitat in the action area, and the past and present impacts of all federal, state, or private actions and other human activities. The BiOps will be completed following publication of the Final EIS but prior to completion of the Records of Decision, and they will be incorporated into the Records of Decision.

Public Participation in Developing HCP**HCP-1.4 Public Comment on Scope of HCP**

One commenter stated that the applicants should have provided the public with more detailed information regarding the intended scope of the Draft HCP during public review and comment on the scope of the Draft EIS or otherwise solicited additional public input during development of the Draft HCP.

Commenters

ORG-3

Response

The HCP is a voluntary, applicant-driven document. HCP applicants and the Services are not required to seek public input during initial development of an HCP. Nevertheless, due to the high level of public interest in the HCP, the Services and the applicants consulted extensively with the public during development of the Draft HCP. As detailed in Section 2.3 of the Final HCP, the Services and applicants met on a regular basis from 2009 through 2019 with a Working Group of interested agencies and organizations and a Stakeholder Group that was open to any member of the public with an interest in the HCP. The Stakeholder Group, which met eight times since 2008, was open to anyone within the Deschutes Basin with an interest in the effects of the HCP on biological, economic, or social resources in the basin.

Under NEPA, FWS, as the lead agency, must seek public input regarding the scope of the Draft EIS that analyzes the effects of and alternatives to the Proposed Action. FWS requested public review and comment during scoping on the Draft EIS to assist the Services in “identifying important issues and alternatives related to the applicants’ proposed action.” Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon, 82 Fed. Reg. 34,326, 34,329 (July 24, 2017). FWS also provided a 60-day scoping period for the Draft EIS between July 21, 2017 and September 22, 2017, during which four public meetings were held in central Oregon and 52 written comments were received, which FWS considered in the development of the Draft EIS.

FWS complied with all public participation requirements under NEPA.

HCP-1.5 Public Participation During HCP Development

One commenter stated that the Draft HCP does not accurately describe public participation during development of the Draft HCP. The commenter stated that environmental nongovernmental organizations were not adequately involved in developing the Draft HCP.

Commenters

ORG-15

Response

Chapter 2 of the Draft HCP accurately describes stakeholder involvement activities during development of the Draft HCP. While public input into the development of a Draft HCP is not a requirement of ESA Section 10, as described in Chapter 2 of the Draft and Final HCPs, there were many opportunities for stakeholder involvement, and the final conservation strategy in the HCP reflects that involvement.

The HCP is a voluntary, applicant-driven document. HCP applicants and the Services are not required to seek public input during initial development of an HCP. Nevertheless, due to the high level of public interest in the HCP, the Services and the applicants consulted extensively with the public during development of the Draft HCP. As detailed in Section 2.3 of the Final HCP, the Services and applicants met on a regular basis from 2009 through 2019 with a Working Group of interested agencies and organizations and a Stakeholder Group that was open to any member of the public with an interest in the HCP. The Stakeholder Group, which met eight times since 2008, was open to anyone within the Deschutes Basin with an interest in the effects of the HCP on biological, economic, or social resources in the basin.

Consultation with Tribes

HCP-1.6 Tribal Trust Responsibilities

One commenter stated that the Services have legal duties to protect tribal trust resources, including bull trout, Chinook salmon, and MCR steelhead, and to advocate for conservation measures in the HCP that will restore or enhance tribal trust resources.

Commenters

TRIBE-1

Response

Throughout the development of the draft HCP, the Services strongly advocated for conservation measures related to tribal trust resources, however the HCP is a voluntary, applicant-driven document. The Services crafted the action alternatives to examine the effects of providing greater protections for listed fish species, as well as for non-listed Chinook salmon. Thus, the Services evaluated various possible modifications to the applicants' proposed conservation measures in the Crooked River (CR-1 to CR-4) in Alternatives 3 and 4 of the Draft EIS.

The applicants' actions and the Bureau of Reclamation (Reclamation)'s storage and release of water from Bowman Dam both occur and overlap in the Crooked River. For that reason, each Service will analyze actions proposed by the applicants under the HCP and actions by Reclamation pursuant to the Crooked River Act in one BiOp that evaluates both the Services' issuance of ITPs and Reclamation's operations of Bowman Dam on the Crooked River. Reclamation releases water from Bowman Dam for the benefits of fish and wildlife. Optimizing the utility of that water could address some of the concerns identified by the Tribe in its comments. The Services will ensure that Reclamation is aware of the Tribe's concern regarding shaping of flows in the Crooked River.

2 Proposed Corrections to the HCP

Potential Errors and Required Corrections

HCP-2.1 Typographical and Technical Errors

Commenters asserted various typos or other technical errors in the Draft HCP or otherwise recommended technical changes to the presentation of data and other information in the Draft HCP.

Commenters

STATE-1, STATE-3, ORG-9, ORG-12, ORG-14, ORG-15, ORG-16

Response

The Services and the applicants have reviewed all comments regarding technical aspects of the Draft HCP, and the applicants have worked with the Services to revise the Final HCP to reflect those technical changes necessary or otherwise appropriate to present accurate information based on the best available science.

3 Comments on Introduction and Background

Introduction

HCP-3.1 Water Rights Administration by State of Oregon

One commenter stated that the Draft HCP provides an incomplete description of how the Deschutes River functions, because the introductory paragraph on page 2-1 of the Draft HCP does not mention that the State of Oregon, through the Deschutes Watermaster, regulates, monitors, and distributes water among the reservoirs and irrigation district canals throughout the year in accordance with state law and the water rights held by the Districts. The commenter stated that the Oregon Water Resources Department (OWRD) is the authority on water rights in Oregon and that any water management changes implemented under the HCP must comply with Oregon water law.

Commenters

STATE-1

Response

The Services agree that the State of Oregon, through OWRD and its staff, regulates the exercise of water rights in Oregon and that any water management changes implemented under the HCP must comply with Oregon water law. All conservation measures in Final HCP Chapter 6, *Habitat Conservation*, have been reviewed by OWRD staff and with full consideration for the responsibilities and authorities of OWRD.

HCP-3.2 Description of Value of Agriculture to Local Economy

One commenter recommended that the economic information on page 2-4 of the Draft HCP be updated using the 2017 Census of Agriculture, which the commenter stated is more reliable than the sources relied on by the Draft HCP.

Commenters

ORG-18

Response

The economic information on page 2-4 of the Draft HCP was provided as background to demonstrate the applicants' need for ITP coverage. The Services acknowledge the source cited by the commenter and can confirm that the 2017 Census of Agriculture has been used, in the Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, to define the affected environment in the study area and support the analysis of the effects on land use and agricultural resources that would result from the proposed action and alternatives. Given this the Services will consider this information in our decision on the ITP applications.

HCP-3.3 HCP Working Group

One commenter appreciated the interdisciplinary HCP Working Group implemented by the applicants. The commenter believed that scientific aspects of the Draft HCP were thoroughly analyzed by Mount Hood Environmental.

Commenters

GP-176

Response

The Services acknowledge this comment.

4 Scope of HCP and ITPs***HCP and ITP Term*****HCP-4.1 Reduced HCP and ITP Term**

Commenters stated that the proposed 30-year ITP term for the HCP and EIS alternatives, is too long. Commenters believed that the Draft HCP does not provide adequate conservation benefits to

support a 30-year permit term, does not contain sufficient flexibility, or does not adequately account for changing future conditions, including climate change and changing land use patterns in the Deschutes Basin. Recommendations from commenters included a shorter permit term or a process to regularly update the HCP.

Commenters

ORG-1, ORG-2, ORG-5, ORG-9, ORG-12, ORG-14, ORG-20, ORG-23, GP-29, GP-34, GP-124, GP-134, GP-172, GP-178, GP-190, GP-191, FLP-17

Response

The basis for the 30-year term is described in Final HCP Section 11.3, *Alternatives to the 30-year Term of the HCP*. The ESA does not specify what the term of an ITP and HCP should be; rather it allows the Services and the applicants the flexibility to identify a term that is appropriate to the activities and species being covered. Previous ITPs and accompanying HCPs have been as short at 15 years and as long as 100 years. During the development of the HCP the applicants worked closely with the Services and the multi-interest Working Group to determine the appropriate term. Periods of less than 30 years would provide less regulatory certainty for the applicants and less time to realize the fish and wildlife benefits of the increased instream flows the HCP would provide. The 30-year term is necessary to phase in the conservation measures at a rate that will not cause more harm than good. For example, as noted in Final HCP Section 8.4, *Oregon Spotted Frog*, the proposed winter flow increases in the Upper Deschutes River have to be phased in over a decade or more to avoid sudden shifts in seasonal hydrology that could inadvertently reduce or eliminate important Oregon spotted frog habitats. The applicants will also need several years to implement the infrastructure changes needed to continue irrigation operations with reduced water, as well as several years of regulatory certainty after the changes are made to recover the financial investments they will need to make. Initially the applicants proposed a term of 50 years, but the length was reduced to 30 years due to feedback from the Working Group. This is a very common length for HCPs of this size.

While comments made on the EIS regarding the permit term are outside the scope of the EIS analysis and NEPA, it should be noted, that in accordance with the NEPA regulations (40 CFR § 1502.14), the Services have evaluated in the Draft EIS a range of reasonable alternatives, which include variations in the proposed ITP term. Under Alternative 4 the Services would issue 20-year ITPs to the applicants for incidental take of each agency's respective covered species likely to be caused by the covered activities in the Deschutes Basin. Please refer to the Final EIS Chapter 2, *Alternatives*, Section 2.1.4, *Alternative 4: Enhanced and Accelerated Variable Streamflows*, for a full description of Alternative 4.

HCP-4.2 Support for 30-Year HCP and ITP Term

One commenter supported the proposed 30-year term for the HCP and requested ITPs. The commenter stated that the 30-year term is necessary for the applicants to justify and seek funding for the investments required to implement the HCP and to support the continued viability of farming and ranching in Central Oregon.

Commenters

ORG-18

Response

The Services acknowledge this comment. Refer to response to comment HCP-4.1, *Reduced HCP and ITP Term* for further discussion of the applicants' decision to request a 30-year permit term.

Relationship between Applicants**HCP-4.3 Severability of Covered Activities**

One commenter disagreed with the description of the covered activities in the Draft HCP as activities undertaken by each applicant that are independent of and geographically separated from the activities of the other applicants and have clearly discernable impacts.

Commenters

ORG-12

Response

The applicants include eight irrigation districts and one municipality, each with independent legal authorities and independent legal obligations to deliver water within designated geographic boundaries, consistent with Oregon law. Refer to Final HCP, Chapter 2, *Introduction and Background*. Although some—but not all—of the applicants share water sources, no applicant has legal authority to direct the operations of any other applicant, and no applicant has jurisdiction extending to all of the covered lands. The applicants have collaborated with the Services to develop independent final conservation measures to mitigate the impacts of the take from the applicants' separate covered activities. While the applicants have distinct actions within the HCP, they collectively submitted the Deschutes Basin HCP and are seeking one joint permit from each Service.

In addition, the Final HCP includes an inter-district coordination agreement that sets forth procedures to ensure that the HCP continues to provide adequate conservation benefits throughout the HCP term, in the event that any applicant discontinues its obligations under the HCP. Refer to Final HCP, Appendix B-1, *Inter-District Agreement by and among Arnold Irrigation District, Central Oregon Irrigation District, Lone Pine Irrigation District, North Unit Irrigation District, Ochoco Irrigation District, Swalley Irrigation District, Three Sisters Irrigation District, Tumalo Irrigation District, and the City of Prineville to Implement the Deschutes Basin Habitat Conservation Plan*.

HCP-4.4 Inter-District Cooperation and Coordination

Commenters recommended that the HCP include additional requirements for cooperation and coordination between the Districts, including provisions to address the possibility that an applicant may discontinue its obligations under the HCP. One commenter recommended that the Services issue a single ITP for the applicants as a group.

Commenters

ORG-12, ORG-14, GP-189

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comment on both documents before making permit decisions on the ITP application. While the applicants have distinct actions within the HCP, they collectively submitted the Deschutes Basin HCP and are seeking one joint permit from each Service. The Services will ensure that the ITPs, if ultimately issued, contain adequate assurances that the Final HCP will be implemented. In addition, the Final HCP includes an inter-district coordination agreement that sets forth procedures to ensure that the HCP continues to provide adequate conservation benefits throughout the HCP term, in the event that any applicant discontinues its obligations under the HCP. Refer to Final HCP, Appendix B-1, *Inter-District Agreement by and among Arnold Irrigation District, Central Oregon Irrigation District, Lone Pine Irrigation District, North Unit Irrigation District, Ochoco Irrigation District, Swalley Irrigation District, Three Sisters Irrigation District, Tumalo Irrigation District, and the City of Prineville to Implement the Deschutes Basin Habitat Conservation Plan*.

HCP-4.5 Conservation Measures Requiring Coordination between Central Oregon ID and North Unit ID

Commenters recommended that the HCP include additional conservation measures requiring cooperation and coordination between Central Oregon ID and North Unit ID, including water sharing and trading.

Commenters

ORG-12, ORG-22, GP-189, FLP-6, FLP-19, FLP-29, FLP-44

Response

The HCP is a voluntary, applicant-driven document. Although some—but not all—of the applicants share water sources, no applicant has legal authority to direct the operations of any other applicant, and no applicant has jurisdiction extending to all of the covered lands. The applicants have collaborated with the Services to develop independent final conservation measures to mitigate the impacts of the take from the applicants' separate covered activities, to provide long-term mitigation based on the biological needs of the covered species, while balancing the applicants' obligations to continue delivering water pursuant to Oregon state law.

Covered Lands and Waters**HCP-4.6 Geographical Extent of Covered Lands and Waters**

Commenters recommended that the HCP cover a smaller geographical area than proposed in the Draft HCP or include additional explanation or clarification regarding the reasoning behind the geographical extent of the covered lands and waters and the extent of the conservation benefits throughout the covered lands and waters.

Commenters

ORG-12, GP-31, GP-189

Response

The covered lands and waters include all aquatic, wetland, riparian, and floodplain habitats affected by the covered activities. Refer to Final HCP, Section 3.2, *Covered Lands and Waters*. The covered activities are those activities that may result in incidental take and are within the applicants' control. Refer to Final HCP, Section 3.5, *Covered Activities and Facilities*. The applicants are seeking incidental take coverage for all covered activities and have proposed a comprehensive set of conservation measures designed to minimize and mitigate the effect of the take from those covered activities to the maximum extent practicable.

Covered Activities and Facilities**HCP-4.7 Activities by Irrigation District Patrons**

Commenters recommended that activities by irrigation district patrons be included within the definition of "covered activities" or that irrigation district patrons be required to implement conservation measures under the HCP.

Commenters

ORG-3, ORG-12

Response

The HCP is a voluntary, applicant-driven conservation proposal by eight irrigation districts (the Districts) and the City of Prineville. To approve the HCP and issue ITPs, the Services must have adequate assurances that the conservation measures in the HCP will be implemented.

The Districts have legal obligations to manage their diversion systems and deliver water to irrigation district patrons, but they do not have control over their patrons' use of that water beyond the Districts' point of delivery, and they do not have legal authority over other lawful activities on private property owned by their patrons. For example, the Districts cannot compel patrons to modify their irrigation infrastructure to increase irrigation efficiency, if the infrastructure complies with state law and property-specific water rights. The Districts cannot legally transfer irrigation rights appurtenant to their patrons' lands without the consent of the patrons (Oregon Revised Statutes [ORS] 540.580(2)(c), Oregon Administrative Rule [OAR] 690-385-2000(1)(n), and OAR 690-385-4200). The Districts also cannot deny or limit delivery of available water to irrigation district patrons, because the Districts are legally obligated to supply sufficient water to satisfy District-delivered water rights appurtenant to patrons' lands, if patrons request water and there is adequate water supply (ORS 545.221). Furthermore, the covered species are not present on patron lands and the Districts' patrons have not sought incidental take coverage under the HCP for activities on their private property, therefore, the commenters' recommendations are outside the scope of the HCP.

Accordingly, the applicants have collaborated with the Services to develop final conservation measures that the applicants have legal authority to implement to mitigate the impacts of incidental take from their own covered activities.

HCP-4.8 Commitments to Acquire Instream Water Rights

Commenters recommended that the HCP include legal commitments to acquire instream water rights for additional stream flows created as a result of the conservation measures and that the applicants subordinate existing irrigation rights to instream water rights.

Commenters

ORG-12, ORG-14, ORG-15

Response

The applicants have collaborated with the Services to develop a final conservation strategy that will provide long-term benefits to the covered species based on their biological needs, primarily through enforceable minimum flow requirements that the applicants must achieve. Acquiring instream water rights, or subordinating existing irrigation rights to instream water rights, are not necessary to provide assurances that those enforceable conservation measures will be implemented. At the same time, to the extent the applicants utilize Oregon state-law programs such as the Allocation of Conserved Water statutes, the applicants anticipate that the conserved water generated from such programs will be protected instream (or reflected in a flow augmentation right) as required by state law.

Otherwise, in many cases, the recommendation exceeds the scope of the applicants' legal authority. As noted, the Districts cannot legally transfer irrigation rights appurtenant to their patrons' lands without the consent of the patrons. Refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*, for further discussion of the Districts' legal obligations and authorities. Additionally, OWRD is the entity that administers and regulates water rights in Oregon and must approve all requests to transfer water rights. Refer to response to comment HCP-3.1, *Water Rights Administration by State of Oregon*, for further discussion of OWRD's legal authorities. Accordingly, the applicants cannot provide adequate assurances that any commitment to acquire instream water rights would be implemented.

Covered Species

HCP-4.9 ITP Coverage of Unlisted Species

One commenter expressed concern that the Draft HCP proposes to extend ITP coverage to Spring Chinook and Sockeye salmon, which are currently not listed under ESA. The commenter recommended that the Services consider additional mitigation opportunities in the event that the listing status of either species changes.

Commenters

GP-176

Response

Congress intended that HCPs include, when possible, conservation measures for species not listed under ESA at the time that an HCP is developed. HCP Handbook at 1-2. "Covering species likely to be listed within the term of the permit can benefit the permittee by ensuring the terms of an HCP will

not need to be changed over time with subsequent species listings. It can also provide early protection for many species and, ideally, prevent subsequent declines and in some cases the need to list such species.” *Id.* When HCP applicants seek ITP coverage for an unlisted species, the Services and the applicants must apply the same legal standards that apply to Endangered Species Act-listed species. *Id.* at 15-6.

The applicants have revised their request for ITP coverage and are no longer seeking ITP coverage for Mid-Columbia River Spring Chinook salmon. The applicants are still seeking ITP coverage for sockeye salmon, in the event that the species becomes listed under ESA during the proposed 30-year permit term. To issue ITP coverage for incidental take of sockeye salmon as a result of the covered activities, the Services must find that the Final HCP satisfies all permit issuance criteria that would otherwise apply if sockeye salmon were actually listed under ESA.

Relationship to Other Laws and Policies

HCP-4.10 Deschutes Basin Water Supply

One commenter stated that the HCP should not be viewed as a comprehensive solution to complex and interrelated water supply issues in the Deschutes basin, including the need for a sustainable groundwater supply.

Commenters

ORG-13

Response

The Services agree. The applicants have submitted an HCP and ITP application to minimize and mitigate the effects of the covered activities, rather than to address all water supply issues in the Deschutes Basin. Refer to response to comment HCP-7.1, *Greater Benefits to Covered Species or Habitat Generally Recommended*, for further discussion of the conservation scope of the HCP.

HCP-4.11 Consistency with Regional Regulatory Frameworks

One commenter recommended that the Draft HCP include additional information regarding how the HCP relates to and is integrated with other regional water management strategies and plans, including the Deschutes Groundwater Mitigation Program, the Water Quality Status and Action Plan for the Deschutes basin, and irrigation district Water Management and Conservation Plans.

Commenters

FED-1

Response

The HCP supplements existing water management frameworks, including the strategies and plans identified by the commenter. The HCP is not intended to supersede those frameworks, nor is it intended to resolve all water supply or water quality problems in the Deschutes basin. Additionally, if the Services approve the Final HCP and issue the ITPs, the applicants will be required to comply with all other sources of law to maintain their ITP coverage. Refer to response to comment HCP-3.1,

Water Rights Administration by State of Oregon, for further discussion of other legal authorities governing the applicants' activities.

In developing the HCP, a key consideration was retaining necessary flexibility to adapt to and comply with future changes in law or policy. For that reason, the applicants committed to a conservation strategy that relies primarily on achieving minimum flow targets, but does not specify the mechanisms by which the applicants will achieve additional water supply to meet those minimum flow targets. Similarly, in Final HCP Section 6.2.5, *Conservation Measures for Wickiup Reservoir and Upper Deschutes River*, the applicants have committed to contribute additional conservation funding, but have not committed to specific conservation projects, to ensure flexibility to use those funds most effectively as habitat conditions and the needs of the covered species continue to evolve in the basin. The HCP was developed to provide sufficient conservation measures to minimize and mitigate the effect of the applicants' take on the covered species to the maximum extent practicable, without interfering with other water management solutions in the Deschutes Basin.

HCP-4.12 Irrigation District Efficiency as a Prerequisite to ITP Issuance

One commenter stated that the Services cannot issue the ITPs until the applicants implement irrigation efficiency measures that the commenter stated are required by Oregon water law.

Commenters

ORG-23

Response

The applicants have an obligation to be in compliance with all state and federal laws. The applicants must also have the legal authority to successfully conduct the proposed activity in order to meet the ESA Section 10 (a)(1)(b) issuance criteria. The Services' obligations are to make permit decisions consistent with the ESA Section 10 (a)(1)(b) issuance criteria, including minimizing and mitigating impacts of the applicants' take to the maximum extent practicable.

HCP-4.13 Legal Obligations of Irrigation Districts

One commenter stated that the Draft HCP does not accurately describe the Districts' legal obligations to deliver water to their patrons.

Commenters

ORG-15

Response

As explained in Section 2.2, *Need for Incidental Take Coverage*, Section 11.2, *Take Avoidance*, and elsewhere throughout the Draft and Final HCP, the Districts cannot deny or limit delivery of available water to irrigation district patrons, because the Districts are legally obligated to supply sufficient water to satisfy District-delivered water rights appurtenant to patrons' lands, if patrons request water and there is adequate water supply.

5 Current Conditions

Current Conditions of Covered Lands

HCP-5.1 Irrigation District Operations

One commenter provided background information regarding the applicants and their operations.

Commenters

ORG-12

Response

The Services acknowledge the information and resources cited by the commenter, much of which is included in Chapters 2 through 4 of the Draft and Final HCPs. The Services will consider that information in our decisions on the ITP applications.

HCP-5.2 Historical and Current Condition of Stream Channels

One commenter provided background information regarding historical and current hydrological conditions on the covered lands.

Commenters

ORG-15

Response

The Services acknowledge the information and resources cited by the commenter. The studies and documents listed in the comment were reviewed during the development of the HCP, and the authors of many of the documents were participants in the HCP Working Group. The conservation strategy of the HCP was developed with full consideration of the available information. While the HCP does not cover all fish species that reside in the Upper Deschutes River, many of the fish-related studies identified in the comment were nonetheless useful in the development of the HCP and are reflected in the conservation measures in Final HCP Chapter 6, *Habitat Conservation*. The HCP would result in a significant improvement in the hydrology of the Upper Deschutes River toward the historical (pre-development) regime by increasing winter flows and decreasing summer flows downstream of Wickiup Dam. As noted throughout the Final HCP, however, complete return to the natural hydrograph of the Upper Deschutes is not possible due to changes to land use and river morphology, as well as irrigation needs..

HCP-5.3 Current Conditions of Prineville Reservoir

One commenter stated that the Draft HCP does not accurately describe current conditions at Prineville Reservoir. The commenter stated that Ochoco ID manages Prineville Reservoir. The commenter stated that the Draft HCP does not discuss storage projects above Prineville Reservoir that affect winter inflows to Prineville Reservoir. The commenter stated that the Draft HCP does not accurately describe the impact of the Crooked River Act on Crooked River flows below Bowman

Dam, because Reclamation has not applied for secondary instream water rights to permanently protect those flows instream.

Commenters

ORG-15

Response

The comment regarding the potential to address impacts from storage projects above Prineville Reservoir is outside the scope of the HCP. Otherwise, the Crooked River subbasin conservation measures in Final HCP Section 6.5, *Crooked River, Ochoco Creek and McKay Creek*, are designed to complement the actions implemented by Reclamation. The EIS analyzed alternatives that included a secondary instream water right for the releases of uncontracted water; however Reclamation has not taken that action to date.

The applicants' actions and Reclamation's storage and release of water from Bowman Dam both occur and overlap in the Crooked River. For this reason, those actions will be analyzed in one BiOp from each Service that evaluates (a) the Service's potential issuance of ITPs and (b) Reclamation's operations of Bowman Dam on the Crooked River.

Current Conditions of Covered Species

HCP-5.4 Historical Accounts of Anadromous Fish Conditions

One commenter provided background information regarding the historical abundance and distribution of covered anadromous fish species in the Upper Deschutes basin. The commenter recommended that the HCP reference that information.

Commenters

ORG-12

Response

At the onset of the HCP development process in 2009, all participants in the Working Group (including FWS, NMFS, ODFW, and others) participated in a formal process to provide the applicants with information on the covered lands and covered species they considered pertinent to the development of the HCP. The Services and the applicants reviewed the provided information when developing HCP Chapters 4, *Current Condition of the Covered Lands*, 5, *Current Conditions of the Covered Species*, and 6, *Habitat Conservation*, and the numerous technical reports prepared collaboratively with the Working Group between 2010 and 2018. While some early anecdotal accounts are not cited in the Final HCP, all relevant and available information on the history, status, and most importantly future potential of the covered species was considered.

HCP-5.5 Current Conditions of Oregon Spotted Frog

One commenter provided background information regarding current conditions of Oregon spotted frog and the impacts of the applicants' operations on Oregon spotted frog.

Commenters

ORG-15

Response

The Services acknowledge the information and resources cited by the commenter. The applicants worked closely with FWS and ODFW on the development of the conservation measures for the Oregon spotted frog. All pertinent and available information was considered in the development of an approach that is both achievable and effective.

HCP-5.6 Future Range of Oregon Spotted Frog

One commenter generally stated that Oregon spotted frog will expand their range below the City of Bend in the next 30 years. The commenter recommended that the Draft HCP illustrate that range, evaluate the potential impacts of dredging Mirror Pond Lake on Oregon spotted frog range, and account for water temperatures below the City of Bend. The commenter did not cite specific authorities in support of the comment.

Commenters

GP-34

Response

The HCP considers the Oregon spotted frog's historical range (downstream to Lower Bridge) and current range (downstream to the Old Mill District) in the Deschutes River. Within this range, however, the HCP does not attempt to speculate on the potential impacts of future activities by other parties. Those activities, if they occur and if they impact Oregon spotted frogs, would be subject to Endangered Species Act compliance separate from the HCP

6 Goals and Objectives

General Comments on Goals, Objectives, and Rationale**HCP-6.1 Specificity of Goals and Objectives**

Commenters generally stated that the Draft HCP does not contain "S.M.A.R.T." (specific, measurable, achievable, realistic, and time-bound) goals and objectives, adequate explanation regarding the scientific assumptions underlying the goals and objectives, or an adequate implementation plan.

Commenters

ORG-14, ORG-23

Response

The commenters did not identify specific concerns regarding the measurable resource objectives and rationales for the proposed conservation measures in Draft HCP Chapter 6, *Habitat Conservation*. Before deciding whether to approve the HCP and issue the ITPs, the Services will

ensure that the Final HCP contains goals and objectives, rationales, and enforceable final conservation measures based on the biological needs of the covered species that comply with the requirements of ESA.

HCP-6.2 Goals and Objectives Based on Biological Needs of Covered Species

One commenter generally stated that the Draft HCP's goals and objectives are not clearly tied to the biological needs of the covered species and that the proposed conservation measures collectively and individually are not designed to achieve those biological needs and meet the "maximum extent practicable" standard.

Commenters

ORG-15

Response

The HCP Handbook states that the HCP include measurable goals and objectives based on the biological needs of the covered species, to inform a comprehensive conservation strategy that minimizes and mitigates impacts of the take to the maximum extent practicable (refer to HCP Handbook pages 6-17 through 6-18). There is no requirement that individual goals, objectives, or conservation measures independently achieve or recite the maximum extent practicable standard.

In Draft HCP Chapter 6, *Habitat Conservation*, the applicants identified measurable resource objectives for each proposed conservation measure to achieve habitat conditions based on the biological needs of the covered species. Before deciding whether to approve the HCP and issue the ITPs, the Services will ensure that the Final HCP contains goals and objectives, rationales, and enforceable final conservation measures based on the biological needs of the covered species that comply with the requirements of ESA.

HCP-6.3 Goals and Objectives Based on Sustaining Current Populations

One commenter stated that the Draft HCP's goals and objectives improperly focus on sustaining current populations of the covered species and should, instead, be designed to enhance the chance of survival or recovery for the covered species—and, in particular, the Oregon spotted frog.

Commenters

ORG-15

Response

The goals and objectives in any HCP must be designed to address the biological needs of the covered species. It is not necessary to state this within each goal, and doing so can distract from the biological aspects of the goal. Before deciding whether to approve the HCP and issue the ITPs, the Services will ensure that the Final HCP conservation strategy will minimize and mitigate the impacts of the taking to the maximum extent practicable and ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. 16 U.S.C. §§ 1539(a)(2)(B)(ii), (iv).

Specific Comments on Goals, Objectives, and Rationale

HCP-6.4 Wickiup Reservoir Goal No. 1

One commenter stated that Wickiup Reservoir Goal No. 1 in the Draft HCP, as well as the Measurable Resource Objectives and Rationale for that Goal, improperly focuses on sustaining current Oregon spotted frog populations, which is inadequate to ensure long-term survival of the species.

Commenters

ORG-15

Response

Wickiup Reservoir Goal No. 1 is to improve the Deschutes River population of Oregon spotted frogs over the long term, which is a cornerstone of any sound conservation and recovery effort. The HCP focuses on increasing the amount and quality of Oregon spotted frog habitat along the Deschutes River between Wickiup Dam and Bend, not simply on maintaining the existing condition. In the case of the Deschutes River, accomplishing this goal will likely require an increase over time in the amount and quality of habitat for the Oregon spotted frogs, as the conservation measures for the Upper Deschutes River are designed to do.

The comment suggested a winter flow of 600 cfs in the Upper Deschutes, but extensive hydrologic modeling and thorough review of natural hydrologic conditions have demonstrated that 600 cfs is not a sustainable minimum flow. The HCP recognizes this, and utilizes instead a long-term goal of 400-500 cfs during the winter. The comment also suggests summer caps on flow, and these are now included in conservation measure WR-1.

HCP-6.5 Middle Deschutes River Goal No. 1

One commenter stated that Middle Deschutes River Goal No. 1 in the Draft HCP is not tied to the biological needs of fish.

Commenters

ORG-15

Response

No covered species inhabit the reach of the Deschutes River most influenced by the applicant's stock water runs. Conservation measure DR-1 was included in the HCP at the request of ODFW, but it was not tied to the specific needs of any covered species.

HCP-6.6 Measurable Resource Objective for Middle Deschutes River Goal No. 1

One commenter stated that proposed conservation measure DR-1 in the Draft HCP does not achieve the Measurable Resource Objective for Middle Deschutes River Goal No. 1 to maintain a minimum winter flow of 250 cfs or maintain minimum summer flows.

Commenters

ORG-15

Response

The applicants explained how proposed conservation measure DR-1 will achieve the Measurable Resource Objective for Middle Deschutes River Goal No. 1 in Final HCP subsections 6.2.8, *Conservation Goals and Objectives for the Middle Deschutes River*, 6.2.9, Conservation Measure for the Middle Deschutes River, and 6.2.10, Rationale for Conservation Measure DR-1. The DR-1 measure applies to the winter storage season only, and therefore would not maintain minimum summer flows. It is important to note that there are no covered species in the Middle Deschutes River, until you get down below the natural barrier of Big Falls. Before making final decisions on the applicants' permit application, the Services will complete findings and recommendations memoranda in conjunction with decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how (if approved) the Final HCP complies with the legal criteria for HCPs and ITPs under ESA Section 10.

HCP-6.7 Rationale for Middle Deschutes River Goal No. 1

One commenter stated that the Rationale for Middle Deschutes River Goal No. 1 in the Draft HCP does not address winter diversions by Lone Pine ID, North Unit ID, Tumalo ID, and Three Sisters ID and, therefore, does not accurately represent the scope of the applicants' impacts on winter water in the Middle Deschutes River.

Commenters

ORG-15

Response

The applicants explained the effects of proposed Conservation Measure DR-1 in Final HCP Section 6.2.10, *Rationale for Conservation Measure DR-1*, and in multiple locations in Final HCP Chapter 8 that evaluate the effects on the covered species. Lone Pine ID and North Unit ID do not divert water outside the irrigation season. Tumalo ID does not divert water from the Deschutes River outside the irrigation season. Three Sisters ID does not divert water from the Deschutes River, and it does not divert water at all during December through February. The Services acknowledge the information and resources cited by the commenter. Before making final decisions on the applicants' permit application, the Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP (if approved) complies with the legal criteria for HCPs and ITPs under ESA Section 10, including minimizing and mitigating the impacts of take from the covered activities to the maximum extent practicable.

HCP-6.8 Whychus Creek Goal No. 1

One commenter stated that Whychus Creek Goal No. 1 in the Draft HCP does not commit to offsetting impacts on fish or mitigation to the maximum extent practicable.

Commenters

ORG-15

Response

The HCP Handbook states that the HCP include measurable goals and objectives based on the biological needs of the covered species, to inform a comprehensive conservation strategy that minimizes and mitigates impacts of the take to the maximum extent practicable (refer to HCP Handbook pages 6-17 through 6-18). There is no requirement that individual goals, objectives, or conservation measures independently achieve or recite the maximum extent practicable standard.

In Draft HCP Chapter 6, *Habitat Conservation*, the applicants identified measurable resource objectives for each proposed conservation measure to achieve habitat conditions based on the biological needs of the covered species. Before deciding whether to approve the HCP and issue the ITPs, the Services will ensure this same chapter of the Final HCP contains goals and objectives, rationales, and enforceable final conservation measures based on the biological needs of the covered species that comply with the requirements of ESA.

HCP-6.9 Measurable Resource Objectives for Whychus Creek Goal No. 1

One commenter stated that the Measurable Resource Objectives for Whychus Creek Goal No. 1 in the Draft HCP are not tied to the biological needs of fish.

Commenters

ORG-15

Response

The measurable resource objectives for Whychus Creek have been updated since publication of the Draft HCP. Refer to Final HCP, Section 6.4.1, *Conservation Goal and Objectives for Whychus Creek*.

HCP-6.10 Goals and Objectives for Crooked River Subbasin

One commenter stated that the Draft HCP's goals and objectives and monitoring provisions for the Crooked River subbasin are not sufficiently "S.M.A.R.T." because they do not include biological metrics to track effectiveness or guide adaptive management related to reintroduction of anadromous salmonids.

Commenters

ORG-14

Response

The HCP's Crooked River subbasin Goal No. 1 is to *assist* in the reintroduction of anadromous salmonids in the Crooked River subbasin by contributing to instream flows. The combination of conservation measures CR-1 through CR-6 address habitat and low flow conditions at critical locations and seasons to achieve this objective.

The applicants' covered activities and Reclamation's storage and release of water from Bowman Dam both occur and overlap in the Crooked River. The HCP addresses effects of the covered activities observed in the Crooked River, where those effects are within the applicants' discretion and control; however, other effects are the result of Reclamation's storage and release of water from Bowman Dam and are, therefore, not appropriate to address through the HCP. For this reason, each Service will issue a BiOp that analyzes both the Services' issuance of ITPs and Reclamation's operations of Bowman Dam on the Crooked River. Further measures, monitoring, or other related terms and conditions resulting from Reclamation's action may be required as a result of the interagency consultation process under ESA Section 7.

HCP-6.11 Crooked River Goal No. 1

One commenter stated that Crooked River Goal No. 1 in the Draft HCP, as well as the Measurable Resource Objectives and Rationale for that Goal, do not address the biological needs of anadromous species.

Commenters

ORG-15

Response

The HCP Handbook states that the HCP include measurable goals and objectives based on the biological needs of the covered species, to inform a comprehensive conservation strategy that minimizes and mitigates impacts of the take to the maximum extent practicable (refer to HCP Handbook pages 6-17 through 6-18).

The HCP's Crooked River subbasin Goal No. 1 is to *assist* in the reintroduction of anadromous salmonids in the Crooked River subbasin by contributing to instream flows. The combination of conservation measures CR-1 through CR-6 address habitat and low flow conditions at critical locations and seasons to achieve this objective. The Crooked River Measurable Resource Objectives support this goal by establishing minimum flows in the Crooked River and its tributaries, to eliminate extremely low flows in the Crooked River. In addition, the applicants have revised their request for ITP coverage and are no longer seeking ITP coverage for Mid-Columbia River Spring Chinook salmon.

Before deciding whether to approve the HCP and issue the ITPs, the Services will ensure that the Final HCP contains goals and objectives, rationales, and enforceable final conservation measures based on the biological needs of the covered species that comply with the requirements of ESA.

HCP-6.12 Measurable Resource Objective 1-C for Crooked River Goal No. 1

One commenter recommended that Crooked River Objective 1-C be tied to flow increases that will result from the McKay Water Switch and that Ochoco ID commit to a deadline for the exchange and winter flow minimums.

Commenters

ORG-15

Response

Ochoco ID cannot commit to a schedule for completion or ultimate outcome of the McKay Water Switch, because the switch involves multiple parties other than Ochoco ID. Since publication of the Draft HCP and Draft EIS, the U.S. Department of Agriculture's Natural Resources Conservation Service has released a draft Environmental Analysis evaluating canal piping in the Crooked River basin, to which the McKay Water Switch relates.

HCP-6.13 Crooked River Goals No. 2 and No. 3

One commenter stated that Crooked River Goal No. 2 in the Draft HCP, as well as the Measurable Resource Objectives and Rationale for that Goal, do not address the biological needs of anadromous species and do not adequately commit to offsetting impacts on listed species.

Commenters

ORG-15

Response

The HCP Handbook states that the HCP include measurable goals and objectives based on the biological needs of the covered species, to inform a comprehensive conservation strategy that minimizes and mitigates impacts of the take to the maximum extent practicable (refer to HCP Handbook pages 6-17 through 6-18). There is no requirement that individual goals, objectives, or conservation measures independently achieve or recite the maximum extent practicable standard.

In Draft HCP Chapter 6, *Habitat Conservation*, the applicants identified measurable resource objectives for each proposed conservation measure to achieve habitat conditions based on the biological needs of the covered species. Before deciding whether to approve the HCP and issue the ITPs, the Services will ensure that the Final HCP contains goals and objectives, rationales, and enforceable final conservation measures based on the biological needs of the covered species that comply with the requirements of ESA.

HCP-6.14 Measurable Resource Objectives for Crooked River Goal No. 3

One commenter stated that the Measurable Resource Objectives for Crooked River Goal No. 3 should commit to maintaining fish screens to NMFS standards and address barrier removal.

Commenters

ORG-15

Response

The Draft HCP has been revised, and final conservation measure CR-5 requires Ochoco ID to meet NMFS fish screen requirements upon replacement. It is not necessary to state that commitment in the Final HCP goals and objectives.

7 Habitat Conservation Strategy, Generally

Benefits to Covered Species

HCP-7.1 Greater Benefits to Covered Species or Habitat Generally Recommended

Commenters generally supported improved habitat for wildlife in the Deschutes basin, generally stated that the Draft HCP does not provide adequate conservation benefits, generally recommended that the HCP provide a greater overall benefit to the covered species or their habitat, or generally recommended that the applicants commit to additional mitigation activities.

Commenters

TRIBE-1, ORG-24, ORG-17, ORG-22, GP-2, GP-16, GP-23, GP-28, GP-31, GP-36, GP-41, GP-85, GP-86, GP-88, GP-91, GP-96, GP-97, GP-105, GP-122, GP-123, GP-132, GP-137, GP-139, GP-145, GP-148, GP-155, GP-159, GP-165, GP-179, GP-184, GP-188, GP-189, FL-1, FL-2, FLP-12, FLP-22, FLP-26, FLP-28, FLP-45, FLP-52, FLP-55, FLP-63

Response

The Final HCP is designed to minimize and mitigate the impacts of take caused by the operational activities (covered activities) of eight irrigation districts and the City of Prineville (the applicants). The covered activities modify the timing and magnitude of flow in the Deschutes River and a number of its tributaries through the storage, release, diversion, and return of irrigation water. The Deschutes basin is a highly altered, complex hydrological system, and changes in surface hydrology caused by the covered activities alter the quantity and/or quality of aquatic habitats for listed species in both positive and negative ways. Furthermore, other numerous human and non-human activities influence the status of the covered species and their habitat in the Deschutes basin, including urban and rural land use practices and climate change. Those activities are beyond the applicants' control and responsibility to mitigate and are therefore beyond the scope of this HCP.

Under ESA Section 10, HCP applicants must minimize and mitigate the impacts of the taking from their actions for which they are seeking incidental take coverage (the "covered activities") to the maximum extent practicable and ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. 16 U.S.C. §§ 1539(a)(2)(B)(ii), (iv). This requirement does not extend to minimizing and mitigating the effects of actions by other parties.

The approach of the Draft as well as the Final HCP is to modify those activities within the applicants' control (the covered activities) to minimize and mitigate the adverse effects caused by the covered activities.

HCP-7.2 Prioritization of Covered Species

Commenters generally stated that the HCP prioritizes the needs of Oregon spotted frog over other covered species and recommended that the HCP include additional commitments to mitigate impacts on covered fish species, including bull trout, salmon, and MCR steelhead, and balance the biological needs of various covered species.

Commenters

TRIBE-1, ORG-24, ORG-19

Response

The HCP proposes a conservation strategy designed to minimize and mitigate the impacts of take to all covered species to the maximum extent practicable. An HCP cannot prioritize one species over another, but must instead address each covered species individually. To approve the ITP, the Services' HCP findings memorandum and Record of Decision must document how the conservation strategy for each covered species minimizes and mitigates the impacts of take to the maximum extent practicable. Historical and current water management practices in the Upper Deschutes Basin have severely degraded the habitat for the Oregon spotted frog; therefore, the conservation measures needed to minimize and mitigate impacts of the covered activities on Oregon spotted frog are extensive.

HCP-7.3 Greater Benefits to Covered Fish Species Recommended

Commenters stated that the Draft HCP does not provide adequate conservation benefits to covered fish species or recommended that the HCP provide a greater overall benefit to covered fish species, including through higher stream flows.

Commenters

ORG-24, ORG-12, ORG-22

Response

Throughout the development of the Draft HCP, the Services strongly advocated for conservation measures for the covered fish species, however the HCP is a voluntary, applicant-driven document. The Services crafted the Draft EIS action alternatives to examine greater protections for listed fish species, as well as non-listed Chinook salmon, and thus evaluated various possible modifications to the proposed conservation measures in the Crooked River (CR-1 to CR-4) in Alternatives 3 and 4 of the Draft EIS.

The applicants' actions and Reclamation's storage and release of water from Bowman Dam both occur and overlap in the Crooked River. For that reason, each Service will analyze actions proposed by the applicants under the HCP and actions by Reclamation pursuant to the Crooked River Act in one BiOp that evaluates both the Services' issuance of ITPs and Reclamation's operations of Bowman Dam on the Crooked River. Reclamation releases water from Bowman Dam for the benefits of fish and wildlife. Optimizing the utility of that water could address some of the concerns identified by the commenter. The Services will ensure that Reclamation is aware of the commenter's concern regarding shaping of flows in the Crooked River.

HCP-7.4 Greater Benefits to Oregon Spotted Frog Recommended

Commenters stated that the Draft HCP does not provide adequate conservation benefits to Oregon spotted frog or recommended that the HCP provide a greater overall benefit to Oregon spotted frog.

Commenters

ORG-15, ORG-22, GP-148

Response

Based on public review of and comment on the Draft HCP, as well as further technical assistance from FWS, the applicants have revised the Final HCP's conservation strategy to provide greater protections for Oregon spotted frog than initially proposed in the Draft HCP. Refer to Final HCP Chapter 6, *Habitat Conservation*.

HCP-7.5 Higher Stream Flows Generally Recommended

Commenters generally supported higher stream flows within the Deschutes basin, generally stated that stream flows proposed under the Draft HCP do not provide adequate conservation benefits, or generally recommended that the HCP provide higher stream flows. Some commenters proposed specific flow targets.

Commenters

ORG-17, ORG-20, GP-31, GP-84, GP-96, GP-123 GP-139, GP-155, GP-159, GP-161, GP-163, GP-183, GP-185, GP-188, FL-2, FLP-26

Response

In the Final HCP, the applicants have modified the proposed conservation measures to provide additional conservation benefits designed to minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable. The modified conservation measures provide for higher stream flows designed to provide conservation benefits to the covered species. Refer to Final HCP Chapter 6, *Habitat Conservation*.

HCP-7.6 Ecologically Relevant Stream Flows Generally Recommended

Commenters generally supported "ecologically relevant" stream flows or stream flows based on the biological needs of the covered species.

Commenters

ORG-20, GP-148

Response

The Services agree. The conservation measures in Final HCP Chapter 6, *Habitat Conservation*, provides stream flows designed to be ecologically relevant and provide conservation benefits based on the biological needs of the covered species.

HCP-7.7 Timing of Stream Flow Regimes Generally Recommended

Commenters generally supported stream flow regimes that provide adequate water and habitat for the covered species throughout their life cycles.

Commenters

ORG-12, ORG-22

Response

The Services agree. The conservation measures in Final HCP Chapter 6, *Habitat Conservation*, are designed to work in concert with other habitat management and enhancement efforts in the basin to meet the biological needs of the covered species.

HCP-7.8 Specificity of Plans to Achieve Higher Stream Flows

Commenters generally requested additional specificity regarding how the HCP will achieve higher stream flows.

Commenters

ORG-17, GP-124, FLP-26

Response

The HCP conservation strategy achieves higher stream flows through minimum flow targets that the applicants must meet. The HCP includes enforcement measures if the applicants do not meet those flow targets, designed to provide adequate conservation benefits to the covered species and minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable. However, to provide the applicants necessary flexibility, the HCP does not specify the mechanisms through which the applicants must achieve water conservation required to meet minimum flow targets. If the Final HCP is approved, the applicants will meet flow targets through a variety of approaches, including operational adjustments, water efficiency and infrastructure projects, water-market transactions, and other options.

HCP-7.9 Expedited Conservation Measures Generally Recommended

Commenters generally recommended that the HCP provide conservation benefits, including higher stream flows, immediately or sooner than proposed in the Draft HCP. Some commenters proposed specific timelines.

Commenters

ORG-4, ORG-17, GP-24, GP-31, GP-35, GP-123, GP-139, GP-158, GP-161, GP-163, GP-182, FLP-26, FLP-28

Response

In the Final HCP, the applicants have modified the proposed conservation measures to accelerate the rate at which stream flows are increased and result in higher stream flows than previously proposed in the Draft HCP. Refer to Final HCP Chapter 6, *Habitat Conservation*.

HCP-7.10 Natural Hydrological Conditions Recommended

Commenters generally recommended that the Deschutes River or other streams within the Deschutes basin be returned to natural hydrological conditions.

Commenters

ORG-11, GP-96, GP-121, GP-122, GP-188

Response

Due to the highly modified nature of the Deschutes basin, in general, and the covered lands, in particular, a return to natural hydrologic conditions may not necessarily provide the desirable level of habitat function to support the covered species. The conservation measures in Final HCP Chapter 6, *Habitat Conservation*, are guided and shaped by knowledge of natural hydrologic conditions, but they ultimately are designed to provide favorable conditions for the covered species in the context of current stream morphology, and land and water use.

HCP-7.11 Consideration of Climate Change Generally Recommended

Commenters generally recommended that the HCP provide adequate conservation benefits to account for the future effects of climate change on the covered species or water supplies.

Commenters

ORG-12, ORG-22, GP-31, GP-35, GP-105, GP-139, GP-145, GP-146, FLP-55, FLP-70, FLP-71

Response

The Final HCP has been designed to ensure that the applicants implement operational changes to minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable and provide adequate conservation benefits to the covered species, primarily by ensuring higher stream flows throughout the HCP term and giving the covered species priority over irrigation for water in the event of climate change.

HCP-7.12 Impacts on Tourism and Recreational Interests

Commenters generally recommended that the HCP account for impacts of altered stream flows on tourism and recreational interests or include recreational stakeholders in development of the HCP.

Commenters

GP-24, GP-36 GP-83, GP-133, GP-175

Response

The comment is outside the scope of the HCP; however, the Services considered impacts of the HCP on tourism and recreation in the Draft EIS. Refer response to comment, EIS-17.2, *Recreation Flow Study*, for additional information.

HCP-7.13 Habitat Impacts Caused by Tourism and Recreational Interests

One commenter generally recommended that water tourism be included in the ITP process and that the HCP require mitigation for habitat impacts caused by water tourism.

Commenters

GP-27

Response

Water tourism is not within the scope of the covered activities proposed by the applicants and, therefore, the comment is outside the scope of the HCP.

HCP-7.14 Changes to Oregon Water Law or Water Rights Recommended

Commenters generally recommended that Oregon water law or existing water rights be modified to allocate water more efficiently or equitably.

Commenters

GP-40, GP-122, GP-138, GP-144, GP-185, GP-189, FLP-17

Response

The comment is outside the scope of the HCP. The applicants must comply with existing water law. Neither the Services nor the applicants have legal authority to modify existing water rights to allocate water more efficiently or equitably.

HCP-7.15 Costs and Risks to North Unit ID

Commenters generally raised concerns regarding economic costs and risks to North Unit ID from implementing the HCP or other water conservation measures. Commenters stated that North Unit ID already delivers irrigation water relatively efficiently and that, as the District with the most junior water rights, North Unit ID will disproportionately bear the costs and risks of the HCP. Some commenters recommended that the HCP include provisions to decrease economic risk to North Unit ID farmers during droughts or other low-water years.

Commenters

LOCAL-3, GP-124, GP-138, GP-140, GP-146, GP-147, GP-150, GP-152, GP-162, FLP-11

Response

The applicants considered economic costs and risks to North Unit ID during HCP development. A key consideration during HCP development was the practical ability of all applicants—including North Unit ID—to complete water conservation improvements necessary to implement the conservation measures and achieve the minimum flow targets identified in the HCP. The applicants collaborated with the Services to develop a Final HCP designed to minimize and mitigate the impact of take from the covered activities to the maximum extent practicable, recognizing and managing those costs and risks to all applicants.

HCP-7.16 Support of Draft HCP as Proposed

Commenters supported the Draft HCP as proposed. Commenters stated that the HCP provides a reasonable compromise among stakeholders that provides adequate conservation benefit to covered species, while providing the applicants and irrigation district patrons sufficient time to adapt.

Commenters

STATE-3, ORG-18, GP-140, GP-162

Response

The Services acknowledge this comment.

Conservation Measure Implementation, Generally**HCP-7.17 HCP Conservation Measure Implementation Strategy**

Commenters stated that the Draft HCP does not adequately explain how the proposed conservation strategy will be implemented and recommended that the HCP include additional explanation and procedures to ensure that the HCP is successfully implemented.

Commenters

ORG-3, ORG-22

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a compliance and enforcement protocol to ensure that the HCP is successfully implemented.

HCP-7.18 Exceptions to HCP Conservation Measures

One commenter stated that the Draft HCP conservation measures include compliance exceptions that may prevent the intended conservation benefits from occurring. The commenter recommended that the HCP include additional assurances that adequate stream flows will be achieved to protect the covered species at all times.

Commenters

ORG-3

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a compliance and enforcement protocol and minimum flow requirements based on the biological needs of the covered Species. The applicants have incorporated additional compliance obligations into all conservation measures in the Final HCP that include enforceable minimum or maximum flow or surface elevation targets.

HCP-7.19 Contingency Plans for HCP Conservation Measures

One commenter stated that the Draft HCP does not adequately address “contingency plans” for the proposed conservation measures—*i.e.*, alternative requirements under the HCP when certain conditions occur. The commenter stated that existing contingency plans in the Draft HCP conservation measures include loopholes that allow the applicants to meet less-protective standards that do not achieve intended long-term conservation benefits, and recommended that the applicants include additional contingency plans in some of the proposed conservation measures.

Commenters

ORG-3

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a compliance and enforcement protocol for each conservation measure. Chapter 7, *Monitoring, Reporting and Adaptive Management*, includes monitoring and adaptive management requirements for the conservation measures, and Chapter 9, *Changed and Unforeseen Circumstances*, includes changed circumstances provisions. All of these are designed to achieve long-term conservation benefits based on the biological needs of the covered Species. The Services will evaluate and document the adequacy of those measures and provisions before making final decisions on the ITP applications.

HCP-7.20 Conservation Funding Implementation

Commenters recommended additional guidelines defining how conservation funds created by the proposed conservation measures in the Draft HCP would be spent to achieve intended conservation benefits and mitigate the impacts of applicants’ incidental take.

Commenters

ORG-3, ORG-14

Response

The conservation measures providing conservation funding are a key part of the HCP’s phased conservation strategy. The conservation funding will be used to help minimize and mitigate the impact of take from the covered activities as the applicants adapt their operations over time, to achieve long-term stream flow conditions necessary to meet the biological needs of the covered species. The Final HCP includes additional conservation funding commitments by the applicants, specifically Conservation Measure UD-1, the Upper Deschutes Conservation Fund. Conservation Measure UD-1 will be used “to improve or enhance habitat in the Upper Deschutes Basin for the Oregon spotted frog and other aquatic species, or otherwise address conditions in the Upper Deschutes Basin that affect the conservation and recovery of the Oregon spotted frog in the wild.” Therefore, funding could be allocated from Conservation Measure UD-1 to implement habitat restoration actions at specific sites to address and improve site-specific functionality during implementation of the flow regime under the proposed action.

HCP-7.21 Conservation Measures Requiring Third-Party Cooperation

Commenters recommended that the Draft HCP include additional detail explaining how proposed Conservation Benefits requiring third-party cooperation will be implemented to achieve intended conservation benefits.

Commenters

ORG-3, ORG-14

Response

The conservation measures in Final HCP Chapter 6, *Habitat Conservation*, do not require cooperation from parties who are not covered by the HCP in order to achieve the intended benefits to the covered species. Several of the conservation measures are designed to work synergistically with the actions of non-applicant parties to provide greater overall benefits to the covered species, but the actions of those other parties are not necessary for the HCP to achieve the levels of minimization and mitigation required under ESA. The Final HCP would achieve long-term conservation benefits primarily through enforceable minimum flow requirements based on the biological needs of the covered species. Although the applicants do not have legal authority to require irrigation district patrons to implement conservation measures on private property, the applicants have also committed to working with their patrons on a voluntary basis, to improve irrigation efficiency and modernize infrastructure in their districts.

HCP-7.22 Timing to Implement Conservation Measures Requiring Third-Party Cooperation

One commenter recommended that the HCP “provide better implementation timing” for proposed Conservation Measures WC-1 and CR-5. The commenter recommended that Conservation Measure WC-1 require that target flows be achieved within the first or second year of the HCP term. The commenter also recommended extending the five-year patron-assistance period in proposed Conservation Measure CR-5 and including a deadline for patrons to install fish screens on their diversions.

Commenters

ORG-3

Response

In the Final HCP, the applicants have revised Conservation Measure WC-1 to require that Three Sisters ID pass all water the district has converted to permanent instream water rights on Whychus Creek (currently 31.18 cfs) at its diversion for the full term of the HCP. Refer to Final HCP Section 6.4, *Whychus Creek*. The applicants did not incorporate the commenter’s recommendations for Conservation Measure CR-5. Refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*, for further discussion of the applicants’ limited authority to regulate private activities by irrigation district patrons.

HCP-7.23 HCP Criteria and Legal Standards for ITP Issuance

Commenters stated that the Draft HCP does not satisfy legal requirements for HCPs or ITP issuance under ESA.

Commenters

TRIBE-1, ORG-24, ORG-3, ORG-12, ORG-14, ORG-15, ORG-22

Response

The Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP complies with the legal criteria for HCPs and ITPs under ESA Section 10. The applicants have collaborated with the Services to develop a Final HCP designed to meet all legal requirements for ITP issuance, including attempting to demonstrate that the Final HCP will provide adequate conservation benefits based on the biological needs of the covered species; will minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable; will include adequate funding assurances; will not appreciably reduce the likelihood of survival and recovery of the covered species in the wild; and will include other implementation assurances required by the Services.

Some commenters urged the Services to conduct or require the applicants to conduct additional or different analyses, or address specific scientific studies or other information in the HCP. The Services acknowledge all additional scientific information, analyses, and resources cited by commenters and will take that information into account—as well as information provided in the Final HCP and the Final EIS—in their ITP issuance decision documents and the corresponding HCP-specific BiOps required under ESA Section 7. Refer to HCP Handbook, Chapters 14 and 15 (identifying Services' responsibilities and required analyses to finalize the HCP and issue ITPs).

8 Specific Comments Regarding Draft Conservation Measures

Recommendations for Draft Crane Prairie Reservoir Conservation Measure

HCP-8.1 Crane Prairie Reservoir Operations and Flow Regimes

Commenters expressed concern regarding impacts of stream flow levels and fluctuations on covered species as a result of operations at Crane Prairie Reservoir. Commenters recommended specific operational measures and flow regimes for Crane Prairie Reservoir or specific modifications to proposed conservation measure CP-1 in the Draft HCP.

Commenters

STATE-4, ORG-3

Response

The operational constraints on Crane Prairie Reservoir in conservation measure CP-1 were designed specifically to balance the need to maintain and enhance Oregon spotted frog habitat in Crane Prairie Reservoir with habitat conditions downstream of the reservoir (refer to Final HCP, Section

6.2.1.4, *Crane Prairie Goal No. 2*). Habitat conditions within the reservoir were prioritized as the reservoir supports an abundance of Oregon spotted frog. The applicants determined, with technical assistance from the Services, that modifications of this measure or additional constraints on the operation of Crane Prairie Dam, including ramping rates and minimum flows, could cause undesirable fluctuations in reservoir water levels and diminish the benefits of the conservation measure to Oregon spotted frogs. While the reservoir contains several hundred acres of highly valuable Oregon spotted frog habitat, the reach of the river downstream of Crane Prairie Dam contains limited habitat for Oregon spotted frog. The one wetland where Oregon spotted frogs breeding has occurred is strongly influenced by water storage in Wickiup Reservoir and not by flows in the Deschutes River. Consequently, modifications to the operation of Crane Prairie Dam would provide little benefit to Oregon spotted frogs downstream of the reservoir, while having detrimental effects on Oregon spotted frogs within the reservoir. No other covered species occur within Crane Prairie reservoir or in the Deschutes River downstream of the reservoir.

Recommendations for Draft Upper Deschutes River and Wickiup Reservoir Conservation Measures

HCP-8.2 Higher Upper Deschutes River Instream Winter and Spring Flow Targets

Commenters recommended that the HCP require higher minimum instream winter and spring flows than provided in proposed conservation measure WR-1 in the Draft HCP. Commenters cited scientific studies supporting a need for higher minimum winter instream flows to achieve necessary conservation benefits for Oregon spotted frog. Some commenters also stated that the flow targets in proposed conservation measure WR-1 do not provide necessary conservation benefits for covered fish species.

Some commenters proposed specific instream flow targets. For example, some commenters stated that winter instream flows of 400 cfs will not achieve necessary conservation benefits and that instream flows of 500 cfs or higher are necessary to support Oregon spotted frog. Some commenters supported the instream flow targets presented in Draft EIS Alternatives 3 and 4.

Commenters

STATE-4, ORG-2, ORG-3, ORG-9, ORG-10, ORG-12, ORG-14, ORG-15, ORG-16, ORG-22, GP-120, GP-122, GP-124, GP-148, GP-169, GP-179, GP-189, FL-3, FLP-26

Response

The applicants and the Services have collaborated to revise the Draft HCP and develop final conservation measures for the Upper Deschutes River, based on the biological needs of the covered species, designed to minimize and mitigate the impacts of the take to the maximum extent practicable. Final conservation measure WR-1 provides for accelerated flow increases and, ultimately, higher instream flows than initially proposed in the Draft HCP. The Services will document in our final decision documents on the ITP applications whether the final conservation measures meet legal requirements for the HCP and ITP issuance and collectively provide adequate conservation benefits for the covered species.

HCP-8.3 Accelerated Timing of Upper Deschutes River Instream Winter Flow Targets

Commenters stated that the HCP should require higher minimum instream winter flows more quickly than the timeline provided in proposed conservation measure WR-1 in the Draft HCP. Commenters stated that an accelerated timeline for instream winter flows is necessary to support short- and long-term survival of Oregon spotted frog. Some commenters also stated that an accelerate timeline is required to provide necessary conservation benefits for covered fish species. Some commenters stated that the applicants could feasibly accelerate the timeline to increase minimum instream winter flows, and that the Draft HCP overstates the economic impacts on the applicants of doing so.

One commenter stated that the HCP does not adequately explain or justify the phased implementation approach in the Draft HCP, based on scientific data.

Commenters

STATE-4, ORG-2, ORG-3, ORG-9, ORG-10, ORG-11, ORG-12, ORG-14, ORG-15, ORG-22, GP-120, GP-122, GP-124, GP-148, GP-169, GP-179, GP-189, FL-3, FLP-26

Response

The applicants have collaborated with the Services to revise the Draft HCP and develop final conservation measures for the Upper Deschutes River, based on the biological needs of the covered species, designed to minimize and mitigate the impacts of the take to the maximum extent practicable. Final conservation measure WR-1 provides for accelerated flow increases and, ultimately, higher instream flows than initially proposed in the Draft HCP. The Services will document in our final decision documents on the ITP applications whether the final conservation measures meet legal requirements for the HCP and ITP issuance and collectively provide adequate conservation benefits for the covered species.

As noted in the analyses of effects in Final HCP Section 8.4, *Oregon Spotted Frog*, increasing winter flows in the Upper Deschutes River causes an unavoidable decrease in summer flows that would likely have a negative impact on Oregon spotted frog. To avoid these potential negative impacts, the winter increases must be achieved gradually to allow for spotted frogs to adjust to a change in summer inundation timing and duration within wetland habitats. A gradual change will allow the Upper Deschutes River time to recover from the past 70 years of modified hydrologic regime. This recovery will be aided by habitat restoration and enhancement activities funded by the HCP's Upper Deschutes Basin Conservation Fund. The timing and rate of increase in the Final HCP are designed to balance the desire to increase winter flows as soon as possible with the need to gradually decrease summer flows.

HCP-8.4 Variable Upper Deschutes River Flows and Annual Releases from Wickiup Dam

Commenters recommended that the HCP include provisions to manage instream flows in the Upper Deschutes River variably, based on annual hydrological conditions. Some commenters proposed specific revisions to proposed conservation measure WR-1 in the Draft HCP or specific mechanisms to manage Upper Deschutes River flows variably.

Commenters

ORG-10, ORG-12, ORG-14

Response

The applicants and the Services have collaborated to revise the Draft HCP and develop final conservation measures for the Upper Deschutes River, based on the biological needs of the covered species, designed to minimize and mitigate the impacts of the take to the maximum extent practicable.

Final conservation measure WR-1 creates additional flexibility to manage instream flows during the HCP term, compared to the conservation strategy for the Upper Deschutes River initially proposed in the Draft HCP. The Services will document in our final decision documents on the ITP applications whether the final conservation measures meet legal requirements for the HCP and ITP issuance and collectively provide adequate conservation benefits for the covered species.

HCP-8.5 Upper Deschutes River Flow Timeline Tied to Dates

Commenters recommended that proposed conservation measure WR-1 in the Draft HCP tie instream flow targets to specific years (*e.g.*, 2020 to 2024), rather than date ranges such as Years 1 through 5 of the HCP term.

Commenters

ORG-11, ORG-20

Response

Implementation years have been used in the HCP rather than calendar years, because the HCP was developed over a long time frame, and the use of calendar years would have required frequent revisions to the working draft of the HCP. The Final HCP still relies on the use of implementation years, but Year 1 of the HCP term is now clearly defined in Final HCP Section 6.1.2, *Organization of Chapter 6*, as 2021.

HCP-8.6 Annual Progress Requirements for Upper Deschutes River Flow Increases

One commenter recommended that the HCP require the applicants to demonstrate progress annually toward increasing instream flows in the Upper Deschutes River by at least 20 cfs per year.

Commenters

ORG-14

Response

Conservation Measure WR-1 of the Final HCP now includes provisions for increasing flows on a regular basis as water becomes available to the Districts through conservation. Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, includes requirements for annual reporting to the Services on flows in particular and HCP implementation in general.

HCP-8.7 Incremental Instream Protection of Conserved Water in Upper Deschutes River

One commenter recommended that the HCP accelerate the timeline to increase flow targets in the Upper Deschutes River by including additional commitments to protect conserved water in the Upper Deschutes River as the applicants complete canal piping and other irrigation efficiency projects.

Commenters

ORG-10

Response

Conservation Measure WR-1 of the Draft HCP has been revised to reflect this recommendation in the Final HCP.

HCP-8.8 Permanent Instream Protection of Increased Flows in the Upper Deschutes River

One commenter recommended that the HCP include additional commitments to permanently protect increased Upper Deschutes River flows instream.

Commenters

ORG-15

Response

The applicants have collaborated with the Services to develop a final conservation strategy designed to provide long-term benefits to the covered species based on their biological needs, primarily through enforceable minimum flow requirements that the applicants must achieve. Acquiring instream water rights, or subordinating existing irrigation rights to instream water rights, are not necessarily required to provide assurances that those enforceable conservation measures will be implemented. At the same time, to the extent the applicants utilize Oregon state-law programs such as the Allocation of Conserved Water statutes, the applicants anticipate that the conserved water generated from such programs will be protected instream (or reflected in a flow augmentation right) as required by state law.

Otherwise, in many cases, the recommendation exceeds the scope of the applicants' legal authority. As noted, the Districts cannot legally transfer irrigation rights appurtenant to their patrons' lands without the consent of the patrons. Refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*, for further discussion of the Districts' legal obligations and authorities. Additionally, the OWRD is the entity that administers and regulates water rights in Oregon and must approve all requests to transfer water rights. Refer to response to comment HCP-3.1, *Water Rights Administration by State of Oregon*, for further discussion of OWRD's legal authorities.

HCP-8.9 Enforcement of Minimum Flow Targets in Proposed Conservation Measure WR-1

Commenters stated that proposed conservation measure WR-1 in the Draft HCP contains exception that would allow the applicants not to achieve minimum flow targets under certain circumstances and does not adequately account for low-water years. The commenters recommend that the HCP include additional requirements for the applicants to achieve hard minimum flow targets at all times.

Commenters

ORG-3, ORG-12, ORG-15

Response

The Draft HCP has been revised. Final HCP Chapter 6, *Habitat Conservation*, identifies required compliance targets and allowable ranges of deviation for all items in final Conservation Measure WR-1. Flows outside of the allowable ranges of deviation that are beyond the applicants' control shall not be considered out of compliance with the final conservation measure. Before deciding whether to approve the Final HCP and issue the ITPs, the Services will ensure that the HCP contains enforceable conservation measures based on the biological needs of the covered species that minimize and mitigate the impacts of the taking to the maximum extent practicable.

HCP-8.10 Upper Deschutes River Summer Instream Flow Caps

Commenters recommended that the HCP conservation measures include upper limits on allowable summer flows in the Upper Deschutes.

Commenters

STATE-4, ORG-12, ORG-14, ORG-15, ORG-22, GP-179, FL-3

Response

The Draft HCP has been revised. Conservation Measure WR-1 in Final HCP Chapter 6, *Habitat Conservation*, includes upper limits on allowable summer flows in the Upper Deschutes, beginning no later than year 8 of HCP implementation (calendar year 2028).

HCP-8.11 Upper Deschutes River Instream Flow Targets During Shoulder Seasons

One commenter recommended that the HCP include additional commitments to use conserved water to increase flows between the City of Bend and Lake Billy Chinook for the benefit of anadromous fish species during the shoulder seasons from mid-September to mid-October and mid-April to mid-May.

Commenters

STATE-4

Response

As shown in Final HCP Chapter 6, *Habitat Conservation*, Figure 6-21, flows in the Deschutes River between Bend and Lake Billy Chinook are predicted to increase from historical levels in all months under the HCP, including the shoulder months at the beginning and end of the irrigation season. This is primarily the result of increased releases from Wickiup Reservoir to benefit Oregon spotted frogs between Wickiup Dam and Bend, but the releases may exceed irrigation demands at the Bend diversions in most months, and the result will be increased flows downstream of Bend. Covered fish species occupy only the lower 12 miles of this reach between Big Falls and Lake Billy Chinook. As noted in the analyses of effects to covered fish species in Final HCP Chapter 8 and Final EIS Chapter 4, shoulder-season flows are not considered limiting factors for the covered species in this reach of the Deschutes River.

HCP-8.12 Upper Deschutes River Ramping Rates

Commenters recommended that the HCP include additional commitments to implement ramping rates below the applicants' diversions. Commenters proposed specific ramping rates and ramping schedules.

Commenters

STATE-4, ORG-12

Response

The Draft HCP has been revised. Conservation Measure WR-1 in Final HCP Chapter 6, *Habitat Conservation*, includes required ramping rates and corresponding allowable ranges of deviation for the Upper Deschutes River.

HCP-8.13 Timing Recommendations for Annual Flow Targets in Proposed Conservation Measure WR-1

Commenters recommended that the annual flow targets in proposed conservation measure WR-1 be timed to coincide with Oregon spotted frog life stages, or that the HCP justify its timeline tied to the irrigation season. Commenters stated that the annual timeline in proposed conservation measure WR-1 would increase flows too late in the spring and decrease flows too late in the fall.

Commenters

ORG-3, ORG-14, ORG-15

Response

The Draft HCP has been revised. Conservation Measure WR-1 in Final HCP Chapter 6, *Habitat Conservation*, aligns with the habitat requirements of the Oregon spotted frog. The Services acknowledge the information and resources cited by the commenters. Before making final decisions on the applicants' permit application, the Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP complies with the legal criteria for HCPs and ITPs under ESA Section 10, including minimizing and mitigating the impacts of take from the covered

activities to the maximum extent practicable and ensuring that taking will not appreciably reduce the likelihood of survival and recovery of the covered species in the wild.

HCP-8.14 Support for Timing and Magnitude of Proposed Stream Flow Targets for Upper Deschutes River

Commenters generally supported the timing and magnitude of increased flow targets for the Upper Deschutes River proposed in the Draft HCP, which the commenters stated would provide adequate conservation benefits to Oregon spotted frog or were reasonable to allow the river system and the applicants and their patrons sufficient time to adapt. One commenter stated that the hydrologic modeling in the Draft HCP was well developed and easy to understand.

Commenters

GP-33, GP-166

Response

The Services acknowledge this comment. For further discussion of the Final HCP's conservation measures for the Upper Deschutes River, refer to response to comment HCP-8.2, *Higher Upper Deschutes River Instream Winter and Spring Flow Targets*, and Final HCP Chapter 6, *Habitat Conservation*.

HCP-8.15 Active Revegetation in Conjunction with Instream Flow Increases

Commenters recommended that the HCP include additional commitments to actively revegetate Oregon spotted frog habitat, in conjunction with instream flow increases.

Commenters

ORG-15, GP-179

Response

The Draft HCP has been revised. The Final HCP includes District contributions of \$150,000 per year to the Upper Deschutes Basin Habitat Conservation Fund (Conservation Measure UD-1). FWS intends that fund to be used to support restoration and enhancement (including revegetation) of Oregon spotted frog habitat concurrent with improvements in flows under the HCP.

HCP-8.16 Guidance for Services' Management of Releases from Wickiup Reservoir

One commenter recommended that the HCP include additional guidance to explain how the Services would manage releases of stored water from Wickiup Reservoir, as provided in Item G of the Draft HCP.

Commenters

TRIBE-1

Response

The Draft HCP has been revised. Conservation Measure WR-1 in Final HCP 6, *Habitat Conservation*, includes language identifying the purposes for which additional releases from Wickiup Reservoir would occur. It is important to clarify that FWS does not manage flows. FWS can provide technical assistance, but water management operations are conducted by the applicants and related state and federal agencies.

Comments on Biological Effectiveness of Draft Upper Deschutes River and Wickiup Reservoir Conservation Measures**HCP-8.17 Connectivity and Genetic Diversity of Oregon Spotted Frog**

One commenter stated that proposed conservation measure WR-1 in the Draft HCP does not adequately ensure connectivity between Oregon spotted frog habitats on the Upper Deschutes River below Wickiup Dam, thereby threatening genetic diversity of the species.

Commenters

ORG-15

Response

Please refer to response to comment EIS-14.7, *Genetic Diversity of Oregon Spotted Frog*.

HCP-8.18 Effects of Historical Wickiup Reservoir Operation

One commenter stated that Section 6.2.6.2 of the Draft HCP does not accurately describe the hydrological impacts of historical Wickiup Reservoir operations.

Commenters

ORG-15

Response

The Services acknowledge all additional scientific information, analyses, and resources cited by the commenter and will take that information into account—as well as information provided in the Final HCP and the Final EIS—in our ITP issuance decision documents and the corresponding HCP-specific BiOps required under ESA Section 7.

Historical operation of Wickiup Reservoir is described in the HCP for background information only, because the ITPs, if issued, would only cover future operation of the reservoir.

HCP-8.19 Effects of Proposed Conservation Measure WR-1 on Hydrology of the Upper Deschutes River

One commenter stated that Draft HCP Section 6.2.6.3 incorrectly assumes that higher winter releases will result in lower summer flows.

Commenters

ORG-15

Response

The Draft HCP has been revised. Final HCP Chapter 6, *Habitat Conservation*, reflects the results of Reclamation's hydrologic modeling of the effects of the HCP on the Deschutes River. This modeling has been done with input from multiple experts inside and outside the basin and has been subject to formal peer review. The modeling continues to demonstrate that increasing winter flows in the Upper Deschutes River (decreasing winter storage) will simultaneously decrease summer flows that historically have been largely determined by the release of storage.

HCP-8.20 Effectiveness of Proposed Conservation Measure WR-1 to Achieve Stated Conservation Objectives for Oregon Spotted Frog

One commenter stated that the Draft HCP does not contain adequate conservation measures to achieve its stated objectives for Oregon spotted frog habitat. The commenter cited scientific studies and opinions of a biologist retained by the commenter in support of the comment.

Commenters

ORG-15

Response

The Draft HCP has been revised. Conservation Measure WR-1 in Final HCP Chapter 6, *Habitat Conservation*, aligns with the habitat requirements of the Oregon spotted frog. The Services acknowledge the information and resources cited by the commenters. Before making final decisions on the applicants' permit application, the Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP complies with the legal criteria for HCPs and ITPs under Section 10 of ESA, including minimizing and mitigating the impacts of take from the covered activities to the maximum extent practicable and ensuring that taking will not appreciably reduce the likelihood of survival and recovery of the covered species in the wild.

HCP-8.21 Oregon Spotted Frog Critical Habitat

One commenter stated that the Draft HCP does not contain adequate conservation measures to provide or restore Primary Constituent Elements (PCEs) for Oregon spotted frog habitat.

Commenters

ORG-15

Response

The conservation strategy for the Oregon spotted frog in Final HCP Chapter 6, *Habitat Conservation*, includes measures that address the PCEs for Oregon spotted frog critical habitat. The Upper Deschutes Conservation Fund (Conservation Measure UD-1) will provide funding to further enhance critical habitat.

Recommendations for Middle Deschutes River Conservation Measures

HCP-8.22 Middle Deschutes River Flow Targets

Commenters stated that the HCP should require year-round minimum flows for the Middle Deschutes River or otherwise manage flows to achieve more even flows year-round. Some commenters recommended that the HCP require year-round minimum flows of 250 cfs or higher in the Middle Deschutes River.

Commenters

ORG-5, ORG-12, ORG-15, ORG-22, GP-137

Response

No covered species inhabit the reach of the Middle Deschutes River most influenced by the covered activities. Conservation measure DR-1 is included in the HCP at the request of ODFW, but it was not tied to the specific needs of any covered species.

HCP-8.23 Instantaneous Flows for Proposed Conservation Measure DR-1

One commenter recommended that proposed conservation measure DR-1 in the Draft HCP require measurement of instantaneous flows, rather than average daily flows, as proposed in the draft conservation measure.

Commenters

ORG-15

Response

In collaboration with the Services, the applicants chose not to incorporate this recommendation into the Final HCP. As noted, conservation measure DR-1 was included in the HCP at the request of ODFW and is not tied to the specific needs of any covered species.

Comments on Biological Effectiveness of Draft Middle Deschutes River Conservation Measures

HCP-8.24 Coordinated Stock Runs as Conservation Measure

Commenters stated that proposed conservation measure DR-1 in the Draft HCP will not provide an adequate conservation benefit to the covered species, because the conservation measure does not provide adequate summer or year-round flows, address thermal impairments during the summer, or account for other winter water diversions (including diversions for storage, hydroelectric power, and other winter uses) that could prevent winter flows from achieving the target provided in the conservation measure. Some commenters stated that the proposed measure, requiring Arnold ID, Central Oregon ID, and Swalley ID to coordinate winter diversions for stock runs, will not provide a conservation benefit to covered species because Arnold ID, Central Oregon ID, and Swalley ID have coordinated stock runs as a best management practice in the past.

Commenters

ORG-12, ORG-15 ORG-22

Response

Conservation measure DR-1 is specific to winter flows in the Deschutes River below Bend. Other conservation measures in the Final HCP address the other flow and temperature issues raised by the commenters, or those issues are otherwise evaluated in the analyses of effects in the Final HCP and Final EIS.

Additionally, best management practices are not enforceable. By including the coordination of winter stock diversions as a conservation measure in the Final HCP, the applicants have made enforceable commitments to implement those best management practices in the future.

Comments on Biological Effectiveness of Draft Crescent Creek Conservation Measures**HCP-8.25 Enforcement of Minimum Flow Targets in Proposed Conservation Measure CC-1**

One commenter stated that proposed conservation measure CC-1 in the Draft HCP contains an exception that would allow the applicants not to achieve minimum flow targets when there is not sufficient inflow to Crescent Lake Reservoir.

Commenters

ORG-3

Response

The Draft HCP has been revised, and the specific concern raised in this comment does not apply to the revised language in Conservation Measure CC-1 in Final HCP Chapter 6, *Habitat Conservation*.

HCP-8.26 Relationship Between Draft Crescent Creek Conservation Measures and Biological Needs of Covered Fish Species

One commenter stated that proposed Conservation Measure CC-1 is based on the applicants' needs during the irrigation season and does not achieve the biological needs of covered fish species throughout their life cycles.

Commenters

ORG-3

Response

No covered fish species reside in Crescent Creek or the Little Deschutes River, and the operation of Crescent Lake Reservoir has almost immeasurable effects on habitat for covered fish species in the

Deschutes River downstream of Big Falls. Conservation measure CC-1 is not intended to have benefits to covered fish species.

Recommendations for Whychus Creek Conservation Measures

HCP-8.27 Conservation Measures to Improve Flows and Temperatures in Whychus Creek

Commenters recommended that the HCP include additional conservation measures to increase stream flows and improve temperature conditions in Whychus Creek. Specific recommendations included acquiring senior instream water rights to permanently protect increased stream flows, incorporating a hard minimum flow target in proposed conservation measure WC-1 in the Draft HCP, and requiring instream flows to the low point of Whychus Creek (Sisters gauge 14076050).

Commenters

STATE-4, ORG-24, ORG-12, ORG-14, ORG-15, ORG-16, ORG-21, ORG-22, GP-177

Response

Over the past 10 years, Three Sisters ID has piped its entire canal system and placed more than 31 cfs permanently instream in Whychus Creek. The District has no more water to place instream without reducing deliveries to patrons. Despite those limitations, Final HCP Chapter 6, *Habitat Conservation*, includes additional commitments to conserve water instream that are within Three Sisters ID control. The District has committed to assist patrons with piping of their individual irrigation systems, which could reduce demand (diversions) in the future; provide conservation funding to secure instream transfers from willing participants; and provide additional conservation funding to support instream habitat improvements. With technical assistance from the Services, the applicants designed this combination of conservation measures to be implemented in conjunction with other third-party conservation efforts not covered by the HCP, to improve flow and temperature conditions in Whychus Creek. Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, also includes a changed circumstances provision that would require the Services to reevaluate Three Sisters ID's ITP coverage for covered fish species, in the event that the HCP's biological objectives for Whychus Creek are not achieved.

HCP-8.28 Enforcement and Implementation of Proportional Water Right Sharing under Draft Conservation Measure WC-1

Commenters recommended that the HCP include additional commitments to adjust flows in Whychus Creek and better implement real-time proportional water right sharing under proposed Conservation Measure WC-1 in the Draft HCP, based on a "flow calculator" or similar tool to continuously measure and monitor flows in Whychus Creek.

Commenters

ORG-10, ORG-16, ORG-21

Response

The Services agree with the recommendation. The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, include a requirement for Three Sisters ID to monitor instream flows when it is diverting water and adjust its diversions to pass required instream flows on an hourly basis when the flow reaching the Three Sisters ID diversion is 60 cfs or less. Instream flows when Three Sisters ID is diverting will be determined by using the proportionality calculator developed by Three Sisters ID and the Deschutes River Conservancy in 2019.

HCP-8.29 Timeline to Manage Flows on 60-Minute Average Basis under Draft Conservation Measure WC-1

Commenters recommended that the HCP accelerate the timeline in proposed conservation measure WC-1 to manage flows on a 60-minute average basis. Some commenters recommended that Three Sisters ID begin managing flows on a 60-minute average basis immediately during the HCP term. One commenter recommended that Three Sisters ID automate its operations to begin managing flows on a 60-minute average basis “within one year.”

Commenters

ORG-12, ORG-16, GP-177

Response

The Services agree with the recommendation to accelerate the timeline for Three Sisters ID to manage flows on a 60-minute average basis. The Draft HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, includes this requirement.

HCP-8.30 Whychus Creek Stream Gauge Accuracy under Draft Conservation Measure WC-1

One commenter recommended that the stream gauge selected to measure Whychus Creek flows under the Draft HCP meet accuracy standards. The commenter recommended that if stream gauge 14076020 (proposed under Draft conservation measure WC-1) does not consistently meet accuracy standards, gauge 140706050 be used instead.

Commenters

ORG-16

Response

The Services agree that accurate stream gauge monitoring is important for successful implementation of the final conservation measures for Whychus Creek. The Draft HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, now uses the appropriate gauge to monitor flows in Whychus Creek.

HCP-8.31 Support for Proposed Conservation Measure WC-2

One commenter supported proposed conservation measure WC-2 in the Draft HCP and supported Three Sisters ID working with the Deschutes River Conservancy to implement instream leasing to increase flows in Whychus Creek.

Commenters

ORG-16

Response

Final Conservation Measure WC-2 in Final HCP Chapter 6, *Habitat Conservation*, includes a commitment by Three Sisters ID to provide annual conservation funding for instream leasing, which would be administered by the Deschutes River Conservancy.

HCP-8.32 Restoration Activities Funded by Proposed Conservation Measure WC-2

One commenter supported proposed conservation measure WC-2 in the Draft HCP, but recommended limiting the use of all funds secured under the measure to transactions to restore stream flow, rather than other aquatic habitat restoration / enhancement activities in Whychus Creek. The commenter recommended that use of the funds be expanded beyond temporary instream leasing to other types of stream flow restoration projects, including management agreements.

Commenters

ORG-10

Response

The Draft HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, includes the addition of conservation measure WC-6, the Whychus Creek Habitat Conservation Fund. This \$10,000-per-year commitment will be dedicated to habitat restoration work, thus freeing up the Whychus Creek Temporary In-Stream Leasing Fund (final conservation measure WC-2) to fund water leasing.

HCP-8.33 Inflation Adjustment for Conservation Funds in Proposed Conservation Measure WC-2

Commenters recommended that the amount of Three Sisters ID's annual conservation fund commitment in proposed conservation measure WC-2 be adjusted annually for inflation.

Commenters

ORG-10, ORG-16

Response

The Draft HCP has been revised. Final HCP Chapter 6, *Habitat Conservation*, states that the fund in final conservation measure WC-2 will include an inflation factor.

HCP-8.34 Conservation Measures to Improve Other Water Quality Parameters in Whychus Creek

Commenters recommended that the HCP include additional conservation measures to improve water quality parameters other than flow and temperature in Whychus Creek.

Commenters

STATE-4, ORG-22

Response

Recognizing that the applicants largely do not have control over water quality conditions other than temperature and stream flows resulting from the covered activities, the applicants collaborated with the Services to develop a conservation strategy to mitigate incidental take only from those known water quality impacts under the applicants' jurisdiction (temperature, surface water elevations, and rates and volumes of stream flows). The applicants have revised the Final HCP and their request for ITP coverage accordingly. For further discussion of the HCP's treatment of other water quality parameters, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

HCP-8.35 Pulse Flows to Reduce Stream Temperatures in Whychus Creek

One commenter suggested that pulse flows could be a way to reduce stream temperatures in Whychus Creek, while allowing Three Sisters ID to meet minimum flow requirements.

Commenters

ORG-16

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-8.36 Details Regarding Three Sisters ID Winter Flows under the HCP

One commenter recommended that the HCP include additional detail and commitments to minimize impacts from irrigation withdrawals between November and March.

Commenters

ORG-16

Response

The Draft HCP's characterization of Three Sisters ID's winter diversions was incorrect. This has been corrected in Final HCP Chapter 6, *Habitat Conservation*, in the Final HCP. Three Sisters ID does not intend to divert water from December through February. Diversions in November and March will be limited in magnitude.

HCP-8.37 Limitations on Winter Use of Three Sisters ID Water Rights

One commenter recommended that the Draft HCP prohibit winter use of Three Sisters ID's water rights for stock watering or require that stock water be tied to needs of the number of animals that are being served by water.

Commenters

ORG-12

Response

The recommendation is outside the scope of the HCP. Three Sisters ID cannot deny or limit delivery of available water to irrigation district patrons, because Three Sisters ID is legally obligated to supply sufficient water to satisfy water rights appurtenant to patrons' lands, if patrons request water and there is adequate water supply.

The Draft HCP's characterization of Three Sisters ID's winter diversions was incorrect. This has been corrected in Final HCP Chapter 6, *Habitat Conservation*, in the Final HCP. Three Sisters ID does not intend to divert water from December through February. Diversions in November and March will be limited in magnitude.

HCP-8.38 Encouragement of Temporary Leasing, Generally

One commenter generally stated that the number of temporary instream leases by irrigation district patrons may be declining. The commenter suggested that irrigation districts, generally, and Three Sisters ID, specifically, should encourage and should not actively discourage temporary instream leasing by patrons.

Commenters

ORG-12

Response

The comment is outside the scope of the HCP. However, in final conservation measure WC-2 in Final HCP Chapter 6, *Habitat Conservation*, Three Sisters ID has committed to provide \$6,000 annually to the Whychus Creek Temporary Instream Leasing Fund, to be adjusted annually for inflation.

Comments on Biological Effectiveness of Draft Whychus Creek Conservation Measures**HCP-8.39 Analysis for Whychus Creek**

One commenter stated that the Draft HCP does not describe how Draft EIS Alternatives 1 through 4 will improve baseline conditions or minimize and mitigate irrigation impacts in Whychus Creek.

Commenters

STATE-4

Response

The HCP is not the document where the alternatives developed through the NEPA process are evaluated. For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*.

The applicants analyzed the effects of the proposed conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. The applicants analyzed alternatives to the proposed conservation measures for Whychus Creek in Final HCP Chapter 11, *Alternatives to the Proposed Incidental Take*.

To the extent that the commenter suggested that the applicants are responsible for mitigating the impacts of irrigated agriculture, generally, in Whychus Creek, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

HCP-8.40 Conservation Benefits of Increased Flows in Proposed Conservation Measure WC-1

Commenters stated that proposed conservation measure WC-1 in the Draft HCP will not result in high enough summer flows in Whychus Creek to address temperature impairments and meet the biological needs of covered species. Commenters recommended that the HCP set hard minimum flow targets to be measured at the Sisters stream gauge 14076050. Some commenters stated that increased stream flows must be protected by permanent senior instream water rights in order to achieve necessary conservation benefits.

Commenters

STATE-4, ORG-12, ORG-14, ORG-15, ORG-16, ORG-21, ORG-22

Response

The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, reflect revisions to the Draft HCP to address multiple comments related to points of measurement and effectiveness.

HCP-8.41 Calculation of Instream Flows in Proposed Conservation Measure WC-1

Commenters stated that the instream flow articulated in proposed conservation measure WC-1 in the Draft HCP is inaccurate, because it does not adequately account for other diversions downstream. Commenters recommended that the measure be revised to reflect all certificated instream water rights converted from Three Sisters ID irrigation water rights since 2005.

Commenters

ORG-10, ORG-12, ORG-16

Response

The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, reflect revisions to the Draft HCP to address multiple comments related to points of measurement and effectiveness.

HCP-8.42 Measurement and Maintenance of Instream Flows in Whychus Creek

Commenters stated that the Draft HCP measures instream flows in Whychus Creek at a location that does not accurately characterize the effects on covered species. Commenters recommended that the HCP require flows in Whychus Creek to be measured in Sisters at stream gauge number 14076050 instead and that the Draft HCP effects analysis be based on measurements at that location, or that the Draft HCP account for measurement differences at the two gauges.

Commenters

STATE-4, ORG-10, ORG-12, ORG-14, ORG-16

Response

The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, have been revised to address multiple comments related to points of measurement and effectiveness.

HCP-8.43 Technical Comments on Proposed Conservation Measure WC-1

One commenter raised multiple technical recommendations regarding management of stream flows under proposed conservation measure WC-1 in the Draft HCP.

Commenters

FED-2

Response

The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, have been revised to address multiple comments related to points of measurement and effectiveness.

HCP-8.44 Clarification on Funding for Temporary Instream Leasing in Proposed Conservation Measure WC-2

Commenters recommended additional analysis regarding how the applicants determined that an annual contribution of \$6,000 to fund temporary instream leasing, as provided in proposed conservation measure WC-2 in the Draft HCP, would provide adequate conservation for the covered species.

Commenters

STATE-4, ORG-24, ORG-12, ORG-14

Response

The Draft HCP has been revised. Final HCP Chapter 6, *Habitat Conservation*, includes additional conservation measures for Whychus Creek (including additional conservation funding) and Chapter 9, *Changed and Unforeseen Circumstances* includes provisions, in the event the conservation

measures in the Final HCP prove to be insufficient to accomplish the HCP's measurable resource objectives for Whychus Creek.

HCP-8.45 Conservation Benefits of Three Sisters ID Fish Screen and Passage Maintenance in Proposed Conservation Measure WC-3

Commenters stated that proposed conservation measure WC-3 in the Draft HCP, requiring Three Sisters ID to maintain fish screens at its diversion, does not provide adequate conservation because Three Sisters ID is required to operate and maintain fish screens, bypass devices, and fish passages pursuant to state statute.

Commenters

STATE-4, ORG-12, ORG-14, ORG-15

Response

Three Sisters ID voluntarily installed fish screens and provided fish passage at its Whychus Creek diversion during development of the HCP. Installation of the new diversion and fish screens cannot be considered conservation measures under the HCP, because Three Sisters ID completed those actions proactively. However, the continued maintenance and operation of the facilities to NMFS standards will provide benefits to the covered species that warrant including those actions in the HCP analysis.

HCP-8.46 Clarification Regarding Enforcement for Piping of Three Sisters ID Patron Laterals in Proposed Conservation Measure WC-4

Commenters requested additional clarification regarding how proposed conservation measure WC-4 in the Draft HCP will be modified or enforced to provide adequate conservation benefits if Three Sisters ID patrons do not cooperate with Three Sisters ID and implement piping of their lateral canals.

Commenters

ORG-14, ORG-15

Response

Three Sisters ID cannot compel its patrons to pipe laterals or take other steps to reduce irrigation demand that are not otherwise required under Oregon water law, as further explained in Final HCP Section 2.2, *Need for Incidental Take Coverage* and Section 11.6, *Alternatives for Whychus Creek*. Final conservation measure WC-4 in Final HCP Chapter 6, *Habitat Conservation*, requires Three Sisters ID to encourage and assist willing patrons with piping, but the conservation measure does not require the District or its patrons to conduct piping. Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, also now contains a Changed Circumstances provision to account for the possibility that final conservation measure WC-4 and other conservation measures under the Final HCP may not be sufficient to accomplish the HCP's resource objectives for Whychus Creek.

HCP-8.47 Conservation Benefits of Proposed Conservation Measure WC-4

Commenters stated that proposed conservation measure WC-4 in the Draft HCP does not provide adequate conservation benefits, because the Draft HCP does not contain commitments to acquire permanent senior instream water rights for any conserved water achieved through piping.

Commenters

STATE-4, ORG-12

Response

The final conservation measures for Whychus Creek in Final HCP Chapter 6, *Habitat Conservation*, include an additional requirement that Three Sisters ID bypass all water the District has converted to permanent instream water rights on Whychus Creek at its diversion, as well as all future additional conversions of senior water rights to permanent instream use.

For further discussion of the recommendation to acquire instream water rights, refer to response to comment HCP-4.8, *Commitments to Acquire Instream Water Rights*.

HCP-8.48 Credit for Conservation Projects Included in Proposed Conservation Measures for Whychus Creek

Commenter stated that some of the Draft HCP's proposed conservation measures for Whychus Creek do not provide adequate conservation benefits because public funding and work has already been invested to implement and achieve those measures. The commenter stated that completed projects should be incorporated into the HCP's environmental baseline.

Commenters

ORG-12, ORG-15

Response

The environmental baseline for Whychus Creek has been modified in Final HCP Chapter 6, *Habitat Conservation*, to reflect completed conservation actions by Three Sisters ID.

General Comments on Conservation Strategy for the Crooked River, McKay Creek, and Ochoco Creek**HCP-8.49 Consistency with Crooked River Act**

Commenters stated that the Draft HCP's goals and objectives and analyses for the Crooked River, Ochoco Creek, and McKay Creek and proposed conservation measure CR-1 are inconsistent with the Crooked River Act. Some commenters that the applicants do not have the legal authority to direct the timing or rate of uncontracted storage from Prineville Reservoir. Some commenters stated that the Crooked River Act requires maintaining a higher minimum instream winter flow in the Crooked River than proposed in the Draft HCP. Some commenters stated that, to comply with the Crooked River Act, the applicants must obtain a secondary instream water right under state law.

Commenters

STATE-4, ORG-14, ORG-15

Response

The conservation measures for the Crooked River subbasin in Final HCP Chapter 6, *Habitat Conservation*, are not inconsistent with the Crooked River Act. The Crooked River Act provides a framework for the storage and release of uncontracted water from Prineville Reservoir for downstream fish and wildlife purposes. Meanwhile, the conservation measures for the Crooked River subbasin provide for Ochoco ID to maintain a daily average flow of 50 cfs below Bowman Dam outside the active irrigation season under certain conditions, among other measures. The Services and the applicants expect for the Crooked River Act and the Final HCP to be implemented in concert with one another.

The Crooked River Act requires Reclamation to store and release uncontracted water in Prineville Reservoir pursuant to an annual release schedule developed by Reclamation, in consultation with the Services. The Services anticipate that, as Reclamation develops the annual release schedule in the future, it will take into account the conservation measures for the Crooked River subbasin in developing the schedule. Reclamation's actions with regard to the Crooked River subbasin will be further assessed pursuant to ESA Section 7.

***Recommendations for Crooked River, Ochoco Creek, and McKay Creek
Conservation Measures*****HCP-8.50 Instream Protection of Increased Flows in Lower Crooked River**

Commenters recommended that the Draft HCP include additional commitments to maintain instream flows from releases of uncontracted storage water from Prineville Reservoir to Lake Billy Chinook. Some commenters recommended permanently protecting instream flows through secondary instream water rights.

Commenters

STATE-1, STATE-4, ORG-24, ORG-12, ORG-14, ORG-15

Response

The Draft HCP has been revised. Final HCP Chapter 6, *Habitat Conservation*, includes an additional conservation measure (CR-7) requiring the applicants to bypass uncontracted releases of "pulse flows" on the Crooked River. Reclamation holds the storage right for the uncontracted (fish and wildlife) water in Prineville Reservoir, not the applicants. Accordingly, while the applicants can refrain from diverting the uncontracted releases, the applicants cannot take action to permanently protect this water from all diversions. The decision whether to apply to OWRD for a permanent instream water right rests with Reclamation.

Storage, allocation, and release of water from Bowman Dam is a federal discretionary action. As such, it is subject to interagency consultation pursuant to ESA Section 7. Because many of Reclamation's management actions are closely related to and would overlap with the applicants' actions pursuant to the HCP, the Services will analyze both sets of actions concurrently with the

proposed issuance of the ITPs. Before deciding whether to issue the ITPs, each Service will issue a separate BiOp that evaluates the applicants' actions pursuant to the HCP, as well as Reclamation's water management actions pursuant to the Crooked River Act.

Comments on Biological Effectiveness of Crooked River, Ochoco Creek, and McKay Creek Conservation Measures

HCP-8.51 Increased Flows in Crooked River Subbasin

Commenters generally supported increasing year-round minimum stream flows in the Crooked River subbasin to address temperature concerns, support reintroduction of anadromous fish pursuant to the Pelton Round Butte FERC license, or otherwise support the biological needs of covered species. Commenters stated that the minimum flow requirements in the Draft HCP provide inadequate conservation benefits to the covered species.

Commenters

ORG-12, ORG-14, ORG-22, GP-179, FL-3

Response

Before deciding whether to issue the ITPs, the Services will determine whether the Final HCP's conservation measures for the Crooked River meet all ITP issuance criteria, including minimizing and mitigating impacts of the applicants' take to the maximum extent practicable. As noted, the Services are concurrently conducting interagency consultation with Reclamation, under ESA Section 7, to evaluate Reclamation's continued operation of Prineville Reservoir on the Crooked River. The conservation measures for the Crooked River in Final HCP Chapter 6, *Habitat Conservation*, were designed to be implemented concurrently with the Crooked River Act. The Services will rely on uncontracted storage in Prineville Reservoir (which was authorized by Congress in 2014 for fish and wildlife use) and other operational flexibilities of Reclamation to address Reclamation's impacts on the covered species in the Crooked River.

HCP-8.52 Practicability of Increased Flows in Crooked River Subbasin

One commenter stated that increasing instream flow releases to the Crooked River would be financially feasible for the applicants and, therefore, practicable.

Commenters

ORG-15

Response

HCP applicants are not required to justify impracticability of any alternative that they do not select, nor are they required to conduct a full alternatives or practicability analysis for other possible conservation strategies proposed by members of the public. Before making decisions on the applicants' ITP applications, the Services will evaluate whether the Final HCP satisfies all HCP and ITP issuance standards under ESA, including providing a conservation strategy that minimizes and mitigates the impacts of applicants' incidental take to the maximum extent practicable. For further analysis of the conservation benefits expected from the HCP, refer to Final HCP Chapter 6, *Habitat*

Conservation, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

HCP-8.53 Instream Flow Rates in Proposed Conservation Measure CR-1

Commenters stated that the instream flows in proposed conservation measure CR-1 in the Draft HCP are too low and do not meet the biological needs of covered species, including steelhead, Chinook salmon, and bull trout. Commenters recommended that the Draft HCP include additional commitments to maintain instream flows of at least 80 cfs below Bowman dam during the storage season.

Commenters

STATE-4, ORG-10, ORG-12, ORG-14, ORG-15 GP-179, FL-3

Response

Final HCP conservation measure CR-1 in Final HCP Chapter 6, *Habitat Conservation*, was designed to be implemented in conjunction with Reclamation's management actions pursuant to the Crooked River Act and to provide additional water instream if Reclamation's releases of uncontracted stored water from Prineville Reservoir are insufficient to achieve minimum flow targets.

The Crooked River Act is a separate federal law that directs Reclamation to store, allocate, and release water from Bowman Dam on the Crooked River, pursuant to an annual release schedule developed by Reclamation, in consultation with the Services. The Services agree that higher flows in the winter benefit fish in the Crooked River, and they have previously recommended in the annual release schedule that Reclamation manage releases from Prineville Reservoir to achieve higher winter flows.

Certain aspects of Reclamation's implementation of the Crooked River Act are discretionary federal actions subject to interagency consultation under ESA Section 7. Because many of Reclamation's management actions are closely related to and would overlap with the applicants' actions pursuant to the HCP, the Services will analyze both sets of actions concurrently with the proposed issuance of the ITPs. Before deciding whether to issue the ITPs, each Service will issue a separate BiOp that evaluates the applicants' actions pursuant to the HCP, as well as Reclamation's water management actions pursuant to the Crooked River Act.

HCP-8.54 Enforcement of Minimum Flow Requirements in Proposed Conservation Measure CR-1

One commenter recommended that the HCP include hard minimum flow targets for proposed conservation measure CR-1.

Commenters

ORG-15

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a compliance and enforcement protocol and minimum flow requirements based on the biological needs of the covered species. The applicants have incorporated additional compliance obligations into all conservation measures in the Final HCP that include enforceable minimum or maximum flow or surface elevation targets.

HCP-8.55 Question Regarding Minimum Flows in Proposed Conservation Measure CR-1

One commenter requested clarification regarding whether water temporarily leased from Ochoco ID patrons will count toward the minimum flow requirement in proposed conservation measure CR-1. The commenter recommended that water temporarily leased from Ochoco ID patrons be additional to the minimum 50 cfs required in the proposed conservation measure.

Commenters

ORG-10

Response

Conservation measure CR-1, as revised in Final HCP Chapter 6, *Habitat Conservation*, does not require that water temporarily leased from Ochoco ID patrons be additional to the required minimum 50 cfs. Ochoco ID has several options for ensuring this minimum flow, including voluntary lease agreements with Ochoco ID patrons.

HCP-8.56 Rationale for and Effects Proposed Conservation Measure CR-1

One commenter raised concerns regarding the analyses supporting the Draft HCP's rationale for proposed conservation measure CR-1 and effects of the conservation measure.

Commenters

STATE-4

Response

Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, explain the applicants' rationale for proposed and final conservation measure CR-1 and the effects of the measure.

HCP-8.57 Rationale for Proposed Conservation Measure CR-1

One commenter stated that the Draft HCP incorrectly describes the amount of stored water available for downstream fish and wildlife from Prineville Reservoir.

Commenters

ORG-15

Response

The Services acknowledge that the Crooked River Act does provide a mechanism for the 10,000 af (af) of rental water requested by the North Unit ID, from Prineville Reservoir, for annual temporary water service contracting to be made available for downstream fish and wildlife in a given year. While the Crooked River Act does state this 1) North Unit ID has informed the Services that it anticipates using all of the 10,000 acre-foot rental account, in each year during implementation of the HCP, and 2) Reclamation has informed the Services that it has no discretion regarding issuing a contract annually to North Unit ID if they request it; therefore, the Services did not consider this 10,000-af volume of water available for fish and wildlife purposes. . The applicants did not support or include a conservation measure for this water to be used for downstream fish and wildlife.

Storage and release of this 10,000-af rental volume of water, consistent with the Crooked River Act, is a Reclamation action and, therefore, to the extent there are discretionary aspects to these actions, they will be subject to interagency consultation under ESA Section 7. Because many of Reclamation's management actions are closely related to and would overlap with the applicants' actions pursuant to the HCP, the Services will analyze both sets of actions concurrently with the proposed issuance of the ITPs. Before deciding whether to issue the ITPs, each Service will issue a separate BiOp that evaluates the applicants' actions pursuant to the HCP, as well as Reclamation's water management actions pursuant to the Crooked River Act.

HCP-8.58 Rationale for Proposed Conservation Measure CR-1

One commenter stated that the Rationale for proposed conservation measure CR-1 in the Draft HCP does not tie the measure to the biological needs of fish. The commenter stated that the Rationale incorrectly assumed that the allocation of uncontracted storage under the Crooked River Act is the primary mechanism to meet Endangered Species Act requirements.

Commenters

ORG-15

Response

The Crooked River Act provides for the storage and release of uncontracted water in Prineville Reservoir for downstream fish and wildlife purposes, and was taken into account in the development of the Crooked River subbasin conservation measures. The Services and the applicants expect for the Crooked River Act and the Final HCP to be implemented in concert with one another.

Certain aspects of Reclamation's implementation of the Crooked River Act are discretionary federal actions subject to interagency consultation under ESA Section 7. Because many of Reclamation's management actions are closely related to and would overlap with the applicants' actions pursuant to the HCP, the Services will analyze both sets of actions concurrently with the proposed issuance of the ITPs. Before deciding whether to issue the ITPs, each Service will issue a separate BiOp that evaluates the applicants' actions pursuant to the HCP, as well as Reclamation's water management actions pursuant to the Crooked River Act.

HCP-8.59 Proposed Conservation Measure CR-1 — Effects of Historical Operations on Hydrology of Crooked River

One commenter stated that Section 6.5.3.2 of the Draft HCP incorrectly describes the division of water rights under the Crooked River Act. The commenter also stated that the Draft HCP fails to compare the effects of historical operations to the biological needs of steelhead, Chinook salmon, and bull trout in the Crooked River system.

Commenters

ORG-15

Response

Final HCP Chapter 4, *Current Conditions of the Covered Lands and Waters*, and 5, *Current Conditions of the Covered Species* describe the status of the covered lands and covered species. Final HCP Chapter 6, *Habitat Conservation*, describes historical hydrology of the covered lands and summarizes the effects of historical irrigation activities on shaping the current conditions of the covered lands. No additional detail on historical conditions or activities is necessary in the Final HCP. If the Services decide to issue the ITPs, the permits would cover the applicants' future operations only. Applicants for section 10 ITPs are not required to provide mitigation for activities that occurred prior to permit issuance; however, the conservation measures must be designed to address the effects of the covered activities based on the current condition of the covered species.

HCP-8.60 Ochoco ID Summer Mitigation

One commenter stated that the Draft HCP does not include conservation measures for Ochoco ID to provide mitigation during summer months. The commenter stated that the proposed conservation measures in the Draft HCP would require storing 13,000 af of uncontracted water in Prineville Reservoir through the irrigation season, which would reduce the water available to increase flows for fish during summer.

Commenters

ORG-15

Response

The conservation measures for the Crooked River in Final HCP Chapter 6, *Habitat Conservation*, emphasize winter flows and smolt migration flows because the Services and ODFW have identified those conditions as the likely limiting factors for covered fish species. As discussed in Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, increasing summer flows at the expense of winter flows would likely not increase overall numbers of covered fish in the river.

The Services are also conducting an interagency consultation with Reclamation, under ESA Section 7, regarding continued operation of Prineville Reservoir, including the use of uncontracted storage in the reservoir for fish and wildlife.

HCP-8.61 Ochoco ID Commitments to Protect Water Instream

One commenter recommended that the Draft HCP include additional commitments requiring Ochoco ID to protect conserved water obtained through piping projects and other infrastructure updates instream.

Commenters

ORG-15

Response

Unlike most irrigation canals that convey Deschutes River water, the canals in Ochoco ID have relatively minor seepage losses. This is due to significant differences in the geologies of the Crooked River and Deschutes subbasins. Water that does leak from Ochoco ID's canals quickly finds its way to irrigated lands (via downslope canals) or to the Crooked River, where it plays a significant role in supporting summer instream flows. Ochoco ID has identified opportunities for system improvements to increase efficiency, but these will not result in significant reductions in diversion rates. Any improvements supported by state funds will require simultaneous placement of water instream on a proportional basis.

HCP-8.62 Proposed Conservation Measure CR-2 — Flows Passed Through Ochoco Reservoir

One commenter stated that the applicants and the Services do not have authority to determine whether water from temporary or permanent instream water right transfers upstream of Ochoco Reservoir will be passed through the reservoir. The commenter stated that OWRD will determine whether it is feasible to pass through that water.

Commenters

STATE-1

Response

The final conservation measure CR-1 in Final HCP Chapter 6, *Habitat Conservation*, was modified to recognize that OWRD makes this determination.

HCP-8.63 Proposed Conservation Measure CR-2 — Support for Flows Passed Through Ochoco Reservoir

One commenter supported the provisions in proposed conservation measure CR-2 in the Draft HCP to pass through Ochoco Reservoir water from temporary or permanent instream water right transfers upstream. The commenter supported the provisions stating that those pass-through flows would be additive minimum flow requirements in proposed conservation measure CR-2.

Commenters

ORG-10

Response

The Draft HCP has been revised. Final conservation measure CR-2 in Final HCP Chapter 6, *Habitat Conservation* addresses this comment.

HCP-8.64 Proposed Conservation Measure CR-2 — Monitoring and Compliance Provisions

One commenter recommended additional real-time monitoring and compliance provisions for proposed conservation measure CR-2, noting that there is no telemetry gauge present at the low spot in Ochoco Creek.

Commenters

ORG-10

Response

The applicants chose not to incorporate this recommendation into the Final HCP, because real-time monitoring and compliance for final conservation measure CR-2 is not feasible for Ochoco ID at this time. Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, includes additional monitoring and compliance provisions applicable to all final conservation measures.

HCP-8.65 Conservation Benefits of Proposed Conservation Measure CR-2

Commenters recommended that the HCP include additional information regarding how proposed conservation measure CR-2 will provide adequate conservation benefits for covered species.

Commenters

ORG-14, ORG-15

Response

As noted in Final HCP Section 6.5.4.3, *Effects of DBHCP Measures CR-2 on the Hydrology of Ochoco Creek*, of the Final HCP the effects of conservation measure CR-2 on the hydrology of Ochoco Creek would be relatively minor. This is because of the generally low and variable natural flows in Ochoco Creek that limit opportunities for flow improvement. Increasing flows in the creek to the extent needed to support migration, spawning, and rearing by covered species would dramatically decrease the availability of water to portions of Ochoco ID; an outcome that the District considers impracticable.

HCP-8.66 Minimum Flows in Ochoco Creek

Commenters recommended that the Draft HCP require minimum flows of 5 cfs in winter in Ochoco Creek. One commenter recommended that the Draft HCP require minimum flows of 10 cfs in summer in Ochoco Creek

Commenters

STATE-4, ORG-12

Response

Hydrologic and habitat analyses presented in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, indicate that the increased flows proposed by the commenters would have marginal benefit to the covered species, but would have significant economic impacts on Ochoco ID patrons. Additionally, decreased access to Ochoco Creek water would require Ochoco ID to rely more heavily on Crooked River (Prineville Reservoir) storage, which would indirectly decrease the average amount of uncontracted storage available in Prineville Reservoir. The Final HCP's conservation measures for the Crooked River have been carefully developed to balance the use of water with the availability of water, and to prevent unintended negative consequences to the covered species.

HCP-8.67 Instream Protection for Releases from Ochoco Reservoir

Commenters recommended that the HCP include additional commitments to maintain water released from Ochoco Reservoir instream to Lake Billy Chinook.

Commenters

ORG-12, ORG-15

Response

The availability of instream protection for conserved water is determined by OWRD in accordance with Oregon water law. Final HCP Chapter 6, *Habitat Conservation*, indicates that Ochoco ID will avoid storing or diverting water that has been placed instream above Ochoco Reservoir, if authorized by OWRD. Additional instream protection of that water would be determined by OWRD and is, therefore, outside the scope of the HCP.

HCP-8.68 Proposed Conservation Measure CR-2 — Effects of Historical Operations on Hydrology of Ochoco Creek

One commenter stated that Draft HCP, Section 6.5.4, does not adequately discuss the flow requirements needed to support all life cycles of covered species in Ochoco Creek or explain how proposed conservation measure CR-2 will offset take.

Commenters

ORG-15

Response

Hydrologic and habitat analyses presented in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, indicate that the increased flows proposed by the commenters would have marginal benefit to the covered species, but would have significant economic impacts on Ochoco ID patrons. Additionally, decreased access to Ochoco Creek water would require Ochoco ID to rely more heavily on Crooked River (Prineville Reservoir) storage, which would indirectly decrease the average amount of uncontracted storage available in Prineville Reservoir. The conservation measures for the Crooked River in Final HCP Chapter 6,

Habitat Conservation, have been carefully developed to balance the use of water with the availability of water, and to prevent unintended negative consequences to the covered species.

Before making final decisions on the applicants' permit application, the Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP complies with the legal criteria for HCPs and ITPs under Section 10 of ESA, including minimizing and mitigating the impacts of take from the covered activities to the maximum extent practicable.

HCP-8.69 Minimum Flows in McKay Creek

One commenter recommended that the Draft HCP require minimum flows of 5 cfs in winter in McKay Creek.

Commenters

ORG-12

Response

McKay Creek is unregulated during the winter. Ochoco ID does not divert water from McKay Creek during the winter, and the District has no way to increase winter flow or ensure a minimum flow.

HCP-8.70 Instream Protection for McKay Creek

One commenter recommended that the HCP include additional commitments to maintain water in McKay Creek instream to Lake Billy Chinook.

Commenters

ORG-12

Response

The OWRD determines the availability of instream protection of conserved water in accordance with Oregon water law. Ochoco ID has no ability to commit to instream protection for water conserved by other parties. As required by conservation measure CR-2, Ochoco ID will avoid diverting water that is placed instream in McKay Creek by upstream parties, but Ochoco ID cannot commit to protecting that water from other downstream diverters.

HCP-8.71 Timing of McKay Creek Water Switch in Proposed Conservation Measure CR-3

One commenter recommended that the McKay Creek Water Switch in proposed conservation measure CR-3 in the Draft HCP be implemented within the first five years of the HCP term. The commenter stated that Ochoco ID should be responsible for funding and implementing the exchange, rather than the Deschutes River Conservancy.

Commenters

ORG-24

Response

Conservation measure CR-3 ensures implementation of a voluntary agreement between Ochoco ID and the Deschutes River Conservancy. Ochoco ID cannot control the timing of the McKay Water Switch. However, the Services note that the project is moving forward, and the U.S. Department of Agriculture Natural Resources Conservation Service recently announced the availability of a Draft Watershed Plan-Environmental Assessment for the Ochoco Irrigation District Infrastructure Modernization Project.

HCP-8.72 Deadline for of McKay Creek Water Switch in Proposed Conservation Measure CR-3

One commenter recommended that the Draft HCP include a deadline to implement the McKay Creek Water Switch in proposed conservation measure CR-3.

Commenters

ORG-24, ORG-15

Response

Ochoco ID cannot control the timing of the McKay Water Switch. However, the Services note that the project is moving forward, and the U.S. Department of Agriculture Natural Resources Conservation Service recently announced the availability of a Draft Watershed Plan-Environmental Assessment for the Ochoco Irrigation District Infrastructure Modernization Project.

HCP-8.73 Support for McKay Creek Water Switch

One commenter supported the McKay Creek Water Rights Switch in proposed conservation measure CR-3 in the Draft HCP.

Commenters

ORG-10

Response

The Services acknowledge this comment.

HCP-8.74 Question Regarding Minimum Flows in Proposed Conservation Measure CR-3

One commenter requested clarification regarding whether water obtained through the McKay Creek Water Switch and other leases or permanent water rights transfers would count toward the minimum flow requirement in proposed conservation measure CR-3. The commenter recommended that the water be additive to the minimum flows required in the measure.

Commenters

ORG-10

Response

The relationship between the McKay Water Switch and the minimum instream flows in McKay Creek is explained in Table CR-3 of final conservation measure CR-3 in Final HCP Chapter 6, *Habitat Conservation*. Water placed instream as a result of the McKay Creek Water Switch will be additive to, but will not replace, Ochoco ID's instream commitments of 2 to 5 cfs (depending on stream reach).

HCP-8.75 Crooked River Conservation Fund – Proposed Conservation Measure CR-4

Commenters requested clarification regarding whether the Crooked River Conservation Fund in proposed conservation measure CR-4 is adequate to ensure that minimum flows will be achieved or will mitigate impacts on covered species. Commenters recommended that the Draft HCP include additional analysis regarding the conservation benefits of proposed conservation measure CR-4. Commenters recommended that the Draft HCP include additional commitments to increase the amount of the conservation fund.

Commenters

STATE-4, ORG-14

Response

Before deciding whether to issue the ITPs, the Services will determine whether the Final HCP's conservation measures for the Crooked River meet all ITP issuance criteria, including minimizing and mitigating impacts of the take to the maximum extent practicable. As noted, the Services are concurrently conducting interagency consultation with Reclamation, under ESA Section 7, to evaluate the continued operation of Prineville Reservoir on the Crooked River.

If the Services decide to issue the ITPs, the funds to be provided under final conservation measure CR-4 would be used for a number of purposes, including instream and riparian habitat improvements. The funds could also be used to secure temporary or permanent instream water rights, but those purposes are not expected to be the sole use of the funds.

HCP-8.76 Recommendations for Crooked River Conservation Fund – Proposed Conservation Measure CR-4

One commenter supported the Crooked River Conservation Fund in proposed conservation measure CR-4 in the Draft HCP. The commenter recommended that the fund be dedicated to dry-year leasing, potentially include adaptive management provisions regarding use of the fund, or increase the annual contribution to the fund. The commenter recommended that any instream water rights acquired through the fund be additive to the minimum flows required under the Draft HCP.

Commenters

ORG-10

Response

The Services agree, and final conservation measure CR-4 has been clarified in Final HCP Chapter 6, *Habitat Conservation*. Any water leased would be treated in accordance with Oregon water law and could be additive to other protected flows, but it would not be additive to the other flow commitments of the HCP.

HCP-8.77 Conservation Benefits of Ochoco ID Fish Screen and Passage Maintenance in Proposed Conservation Measure CR-5

Commenters stated that the Draft HCP's fish passage and screening conservation measures to be implemented by Ochoco ID do not provide adequate conservation because Ochoco ID is already required to implement those measures.

Commenters

ORG-12, ORG-14

Response

Ochoco ID has screened all of its diversions that are accessible to covered species (diversions from within canals are not screened). However, the continued maintenance and operation of the facilities to NMFS standards will provide benefits to the covered species that warrant including those actions in the HCP analysis. Additionally, including the screens in conservation measure CR-5 provides an added level of assurance that covered fish species will be protected from entrainment.

HCP-8.78 NMFS Screening Standards for Proposed Conservation Measure CR-5

One commenter recommended that proposed conservation measure CR-5 in the Draft HCP require Ochoco ID to meet NMFS fish screen requirements.

Commenters

ORG-15

Response

Conservation measure CR-5 in Final HCP Chapter 6, *Habitat Conservation*, requires Ochoco ID to meet NMFS fish screen requirements upon replacement.

HCP-8.79 Timing of Draft HCP Conservation Measure CR-5

One commenter stated that Draft HCP conservation measure CR-5 should be modified to require the applicants to assist irrigation patrons with fish screening throughout the life of the HCP to better protect covered fish species.

Commenters

ORG-3

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-8.80 Minimum Flows in Proposed Conservation Measure CR-6

One commenter requested clarification regarding whether the minimum flow requirements in proposed conservation measure CR-6 will increase as new conserved water becomes available. The commenter recommended that the Draft HCP consider additional commitments to maintain conserved water instream.

Commenters

ORG-10

Response

The minimum flow requirements in final conservation measure CR-6 will not increase as a result of future conserved water projects. Final HCP Chapter 6, *Habitat Conservation*, explains the relationship between final conservation measure CR-6 and future conserved water projects. The Deschutes River Conservancy and North Unit ID interpret their voluntary agreement to mean that any water reaching the North Unit ID pumps, other than water released from Prineville Reservoir for the District's benefit or any water that has an instream water right, shall be considered toward meeting the flow requirements downstream of the pumps, and OWRD follows this same interpretation. North Unit ID may not divert water protected by an instream water right senior to the District's, but the District may count all water that passes its pumps toward meeting the requirements of final conservation measure CR-6.

HCP-8.81 Revisions to Dry Year Declaration in Proposed Conservation Measure CR-6

Commenters recommended revising proposed conservation measure CR-6 in the Draft HCP to update the Dry Year Declaration criteria to provide additional management flexibility for North Unit ID and accommodate future revisions to the agreement upon which the Dry Year Declaration requirement is based.

Commenters

ORG-10, ORG-12

Response

The Dry Year Declaration criteria is the result of an agreement between North Unit ID and the Deschutes River Conservancy, and changes to this agreement are beyond the scope of the HCP. The Services have requested that OWRD revisit the dry year/non-dry year determination closer to the day of allocation.

**HCP-8.82 Clarification Regarding Deschutes River Conservancy Agreement –
Proposed Conservation Measure CR-6**

One commenter requested additional clarification regarding the Draft HCP's statement on page 6-99 that North Unit ID's agreement with the Deschutes River Conservancy is "voluntary."

Commenters

ORG-14

Response

North Unit ID's agreement with the Deschutes River Conservancy was a voluntary agreement between the two parties as part of a joint effort to increase instream flows in the Crooked River. However, aspects of that agreement were incorporated into North Unit ID's certificated water rights issued by the Oregon Water Resources Department.

HCP-8.83 Conservation Benefit of Proposed Conservation Measure CR-6

One commenter requested additional clarification regarding the conservation benefit of proposed conservation measure CR-6 in the Draft HCP. The commenter stated that, because releases of uncontracted storage from Prineville Dam will ultimately be protected instream, proposed conservation measure CR-6 does not provide a clear conservation benefit. The commenter recommended that North Unit ID commit to meeting a minimum flow regardless of whether the source is live flow or stored water.

Commenters

ORG-15

Response

The commenter's assumption that "releases of uncontracted storage from Prineville Dam will ultimately be protected instream" is not substantiated. Reclamation holds the storage right for the uncontracted (fish and wildlife) water and has not applied to OWRD for the secondary instream water right referenced by the commenter.

Under final conservation measure CR-6 in Final HCP Chapter 6, *Habitat Conservation*, the 10,000 af of rental water available to North Unit ID. From Prineville Reservoir, pursuant to temporary water service contracts are managed by Reclamation pursuant to its authority under the Crooked River Act. Accordingly, that water is beyond the scope of North Unit ID's bypass agreement with the Deschutes River Conservancy and is not subject to the minimum flow requirements provided in final Conservation Measure CR-6. The language in final Conservation Measure CR-6 has been updated to reflect that it is only the 10,000 af of water purchased under a temporary water service contract, or other stored water rights purchased by North Unit ID, that are not included in this bypass flow.

HCP-8.84 Relationship Between Crooked River Conservation Measures and Biological Needs of Covered Fish Species

One commenter recommended that proposed Conservation Measures CR-1, CR-2, and CR-3 be tied to the biological needs and life cycles of covered fish species, rather than the irrigation season. The commenter stated that the measures will not provide an adequate conservation benefit to covered fish species and that timing protective flows to match fish life cycles would minimally burden the applicants.

Commenters

ORG-3

Response

All conservation measures in Final HCP Chapter 6, *Habitat Conservation*, were designed to address the needs of the covered species, but many are stated in terms that are relevant to irrigation to align them with the covered activities and to facilitate their effective implementation by the applicants. Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, evaluates the effects of all final conservation with respect to the biological needs of the covered species. Before deciding whether to issue the ITPs, the Services will evaluate whether the Final HCP satisfies all ITP issuance criteria, including providing adequate conservation benefits for the covered species.

HCP-8.85 Conservation Measures to Improve Flow and Temperature – Crooked River Subbasin

Commenters recommended that the HCP include additional conservation measures to minimize or mitigate the impacts of irrigation withdrawals on covered species in the Crooked River. One commenter stated that Ochoco ID's irrigation withdrawals in the Crooked River result in low summer flows and high water temperatures, which degrade habitat and contribute to exceedances of state water temperature standards. One commenter recommended that the Draft HCP include additional commitments to mitigate temperature exceedances and water quality impacts from return flows during the irrigation season.

Commenters

ORG-24, ORG-14

Response

Recognizing that the applicants largely do not have control over water quality conditions other than temperature and stream flows resulting from the covered activities, the applicants collaborated with the Services to develop a conservation strategy to mitigate incidental take only from those known water quality impacts under the applicants' jurisdiction (temperature, surface water elevations, and rates and volumes of stream flows). The applicants have revised the Final HCP and their request for ITP coverage accordingly. For further discussion of the HCP's treatment of other water quality parameters, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

HCP-8.86 Conservation Measures to Improve Water Quality – Crooked River Subbasin

Commenters recommended that the HCP include additional conservation measures to improve water quality in the Crooked River subbasin and the Lower Deschutes River. One commenter recommended that HCP conservation measures include monitoring of nutrient discharges and stated that reducing nutrient discharges in the Crooked River subbasin could help water-quality-limited streams achieve water quality criteria.

Commenters

STATE-2, STATE-4, ORG-24, ORG-14, ORG-15, ORG-22, FED-2, GP-192

Response

The recommendation to address nutrient discharges is outside the scope of the HCP. For further discussion of the HCP's treatment of water quality impacts, including nutrient discharges, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

HCP-8.87 Conservation Measures to Modify Bowman Dam Release Structures

One commenter recommended that the HCP should include additional commitments to modify the Bowman Dam release structures to eliminate nitrogen super saturation during high flow and spill events above 600 cfs, to reduce the occurrence of gas bubble disease in protected species. The commenter stated that Reclamation owns Bowman Dam, but recommended that Ochoco ID, as the dam operator, "pursue meaningful resolution" of gas bubble disease.

Commenters

ORG-12

Response

Elevated total dissolved gasses (TDG) and resulting gas bubble disease downstream of Bowman Dam are the result of flood control releases from Prineville Reservoir and are, therefore, outside the scope of the HCP. Ochoco ID does not have the financial capabilities or legal authority to address those impacts through the HCP.

As noted, the Services are concurrently conducting interagency consultation with Reclamation, under ESA Section 7, to evaluate the continued operation of Prineville Reservoir on the Crooked River.

HCP-8.88 Ochoco ID Protest of Instream Water Right

One commenter recommended that Ochoco ID remove its protest for the instream water right in the Lower Crooked River.

Commenters

ORG-12, ORG-15

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-8.89 Conservation Measures Related to Ochoco ID Patron Pumps

One commenter recommended that the HCP require telemetry, measuring, and reporting for all Ochoco ID patron pumps.

Commenters

ORG-15

Response

Ochoco ID patrons operate more than 60 small pumps to divert water directly from Ochoco Creek and the Crooked River. The patron pumps are not covered activities under the HCP. Each pump is the responsibility of the respective patron and is subject to individual compliance with ESA. The funding of telemetry at each of the pumps is beyond the financial capabilities and authorities of Ochoco ID. The Services will continue to work with all irrigators and other water users in the Deschutes Basin that are not parties to the Deschutes Basin HCP to ensure that they are in compliance with ESA.

HCP-8.90 Conservation Measures Related to North Unit ID Storage in Prineville Reservoir

One commenter recommended that the HCP consider whether North Unit ID can call on its 10,000 af of rental water in Prineville Reservoir later in the season (July 1 through October 1) or otherwise coordinate with Reclamation to achieve maximum protection to downstream fish resources.

Commenters

ORG-14

Response

The applicants chose not to incorporate the recommendation into the Final HCP, because of the need for North Unit ID to retain flexibility in its use of the 10,000 af of rental water made available, from Prineville Reservoir to North Unit ID through temporary water service contracts pursuant to the Crooked River Act. That flexibility is necessary for North Unit ID to prepare for and respond to early-season water supply shortages anticipated as a result of constraints on North Unit ID's operations resulting from the Final HCP's conservation measures for the Deschutes River.

9 Other Proposed Conservation Strategies

Other Proposed Conservation Strategies, Generally

HCP-9.1 Other Conservation Strategies Proposed by Commenters

A number of commenters proposed that the HCP include specific additional or different conservation measures.

Commenters

FED-1, STATE-1, STATE-2, STATE-4, ORG-24, ORG-3, ORG-9, ORG-10, ORG-11, ORG-12, ORG-14, ORG-16, ORG-19, ORG-20, ORG-22, GP-28, GP-114, GP-124, GP-133, GP-137, GP-138, GP-177, GP-189, GP-192, FL-2, FLP-71

Response

The HCP is a voluntary, applicant-driven document. In collaboration with the Services, the applicants have developed a final conservation strategy designed to provide long-term mitigation based on the biological needs of the covered species, while balancing the applicants' obligations to continue delivering water pursuant to Oregon state law.

Before making decisions on the applicants' ITP applications, the Services will ensure that the Final HCP satisfies all HCP and ITP issuance standards under ESA. If the Final HCP meets those standards, including providing a conservation strategy that minimizes and mitigates the impacts of applicants' incidental take to the maximum extent practicable, the Services will issue the ITPs.

The Services appreciate commenters' suggestions for other possible conservation strategies. The applicants have collaborated with the Services to consider other potential conservation strategies, including strategies proposed by commenters. Based on those comments, in some cases, the applicants have revised the Draft HCP to include additional or revised conservation measures in the Final HCP to provide adequate conservation benefits to the covered species intended to meet ITP issuance standards.

Habitat Restoration and Conservation Funding

HCP-9.2 Applicant-Supported Conservation Fund for Habitat Restoration

Commenters recommended that the HCP include additional commitments by the applicants to provide conservation funding for stream channel and habitat restoration in the Deschutes River. Some commenters provided specific recommendations regarding how conservation funding should be administered or the types of conservation projects that should be funded. Some commenters specifically supported the creation of an Upper Deschutes River Conservation Fund, as proposed in Alternatives 3 and 4 of the Draft EIS.

Commenters

FED-1, STATE-2, STATE-4, ORG-3, ORG-9, ORG-10, ORG-11, ORG-14, ORG-16, ORG-19, ORG-20, GP-174, GP-189,

Response

The applicants have committed to additional conservation funding in the Final HCP by including conservation measure UD-1 in Chapter 6, *Habitat Conservation*, which provides \$150,000 annually to support habitat restoration projects.

HCP-9.3 Applicant-Supported Conservation Fund for Water Market Transactions

Commenters recommended that the HCP include additional commitments by the applicants to provide conservation funding to support water market transactions, including leasing, water banking, and permanent transfers of water rights instream.

Commenters

STATE-4, ORG-12

Response

The Draft HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, includes the addition of conservation measure WC-6, the Whychus Creek Habitat Conservation Fund. This \$10,000-per-year commitment will be dedicated to habitat restoration work, thus freeing up the Whychus Creek Temporary In-Stream Leasing Fund (final conservation measure WC-2) to fund water leasing.

The Services also note that Central Oregon ID and the Deschutes River Conservancy have recently initiated a water-marketing program to address topics the commenters raised, although that program is outside the scope of the HCP.

HCP-9.4 Applicant-Directed Habitat Restoration

Commenters recommended that the HCP conservation measures include additional commitments by the applicants to implement habitat restoration projects throughout the covered lands.

Commenters

ORG-3, ORG-14

Response

The applicants are water managers and are not experts in habitat restoration. Accordingly, the applicants have not committed to implement habitat restoration projects but have committed to contribute funds for habitat-restoration work that the Services, in coordination with other restoration experts, believe will benefit the covered species. The Final HCP reflects those commitments.

HCP-9.5 Habitat Restoration Related to Beavers

Commenters recommended that the HCP include conservation measures to restore beaver habitats.

Commenters

ORG-20, GP-137

Response

In Final HCP Chapter 6, *Habitat Conservation*, the applicants have committed to contribute additional conservation funding. Final conservation measure UD-1 provides \$150,000 annually to support habitat restoration projects. The Services recognize the ecological benefits that beaver provide on the landscape and agree that projects benefiting beaver would also benefit the covered species.

HCP-9.6 Management of Non-Native Fish

One commenter recommended that the HCP include additional commitments to prevent migration of bullheads and largemouth bass out of Wickiup Reservoir.

Commenters

ORG-9

Response

In Final HCP Chapter 6, *Habitat Conservation*, the applicants have committed to contribute additional conservation funding. Final conservation measure UD-1 provides \$150,000 annually to support habitat restoration projects. The Services recognize the ecological benefits of preventing migration of bullheads and largemouth bass from migrating out of Wickiup Reservoir. The Services, in coordination with other restoration experts, will evaluate whether projects to control the migration of non-native species are the best use of the Upper Deschutes Basin Conservation Fund.

Water Marketing and Water Supply**HCP-9.7 Market-Based Solutions**

Commenters recommended that the HCP utilize a conservation strategy founded on market-based incentives to increase stream flows, including market-based tools identified in the Deschutes Basin Study.

Commenters

ORG-12, GP-133, GP-138, FL-2

Response

HCPs are applicant-driven processes. applicants draft the HCP with technical assistance provided by the Services. The Services do not choose the conservation measures that applicants propose, but they do provide guidance regarding the effectiveness of those measures to meet the biological goals and objectives detailed in the HCP.

For the Deschutes Basin HCP, the applicants proposed a conservation strategy based primarily on enforceable minimum flow targets, but chose to retain flexibility in how those minimum flow targets

will be achieved. The Final HCP allows the applicants to pursue a variety of mechanisms to implement the final conservation measures. Those implementation mechanisms may include the market-based tools that the commenters identified, as well as other options.

HCP-9.8 Conservation Measures to Achieve Additional Water Supply

One commenter recommended that the applicants evaluate other water supply sources, including utilizing reregulating reservoirs such as Haystack Reservoir, to accommodate higher winter flows earlier within the HCP term.

Commenters

ORG-14

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-9.9 Use of Diversion Dams

One commenter recommended using diversion dams to collect water during high-water events and eliminate the need for in-river dams for irrigation.

Commenters

GP-6

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

Other Proposed Conservation Measures

HCP-9.10 Conservation Measures Relating to Revenue from Hydroelectric Projects

One commenter recommended that the HCP prohibit irrigation districts from collecting revenue from hydroelectric projects or require irrigation districts to apply that revenue toward achieving flow targets under the HCP.

Commenters

GP-35

Response

The applicants chose not to incorporate this recommendation into the Final HCP. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-9.11 Conservation Measures to Limit Tourism

One commenter recommended that the HCP consider limiting or prohibiting tourism in key habitat areas during Oregon spotted frog breeding and spawning periods.

Commenters

GP-28

Response

The applicants do not have authority to limit or otherwise prohibit tourism in key habitat areas during Oregon spotted frog breeding and spawning periods and, therefore, this recommendation is outside the scope of the HCP. The Services note that anyone who harms Oregon spotted frogs would not be covered by the ITPs and, therefore, may be separately liable under ESA.

For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-9.12 Conservation Measures Requiring Stakeholder Cooperation

One commenter recommended that the HCP include additional commitments to cooperate with all stakeholders to address water conservation and management and changes to the law.

Commenters

ORG-5

Response

The applicants chose not to incorporate this recommendation into the Final HCP. However, the Services and the applicants remain committed to collaborating with regional stakeholders to address water supply issues in the Deschutes basin. For further discussion of the applicants' and Services' respective roles in selecting a final conservation strategy, refer to response to comment HCP-9.1, *Other Conservation Strategies Proposed by Commenters*.

HCP-9.13 Conservation Measures Relating to Livestock Grazing and Agricultural Runoff

One commenter recommended that the HCP include additional commitments to mitigate the impacts of livestock grazing and agricultural runoff.

Commenters

GP-192

Response

The applicants do not have authority over impacts from livestock grazing and agricultural runoff on private property and, therefore, this recommendation is beyond the scope of the HCP.

For further discussion of the limited scope of applicants' authority over private irrigation and agricultural practices, refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*. For further discussion of the HCP's conservation strategy to address water quality impacts from the covered activities, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

Water Quality**HCP-9.14 Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows**

Commenters generally recommended that the HCP include additional commitments by the applicants to improve water quality parameters other than temperature or parameters related to stream flows. Commenters recommended that the HCP improve water quality throughout the covered lands and Waters and, in particular, in the Crooked River subbasin. Some commenters recommended specific additional conservation measures to mitigate water quality impacts of irrigation district return flows or irrigated agriculture, generally. Recommendations included conservation funding for water-quality improvement projects—including riparian restoration to enhance pollutant filtering—and on-farm irrigation efficiencies and other water-conservation measures to reduce agricultural runoff. Commenters also recommended that the applicants commit to additional water quality monitoring.

Commenters

FED-1, STATE-2, STATE-4, TRIBE-1, ORG-24, ORG-3, ORG-12, ORG-14, ORG-20, ORG-22, GP-139, FED-2, GP-177, GP-192

Response

Under Section 10 of ESA, the applicants must minimize and mitigate the impacts of taking resulting from their covered activities to the maximum extent practicable and ensure that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. 16 U.S.C. §§ 1539(a)(2)(B)(ii), (iv).

The Draft HCP proposes to include all "return flows" under the applicants' jurisdiction within the scope of the ITPs to be issued by the Services. The term "return flow" refers to diverted irrigation water that is allowed to flow back into a natural river or creek and includes "tailwaters" and "spills." Refer to HCP, Chapter 3, *Scope of the DBHCP*. Both types of return flows are otherwise lawful activities that the applicants operate in compliance with all applicable laws. By altering the hydrology of the Deschutes basin, the applicants' return flows and other covered activities

contribute to temperature impairments and other water quality impairments related to surface water elevations and the rates and volumes of stream flows.

As commenters noted, other water quality constituents and parameters—including nutrient discharges—also affect aquatic species and their habitats throughout the Deschutes basin. Multiple sources contribute to nutrient and other water quality impairments in the basin, including agricultural practices and other nonpoint and point sources related to urban and rural human activities. The Draft HCP and the Draft EIS accounted for those existing water quality impairments as part of their environmental baselines in evaluating the impacts of the covered activities. However, as discussed throughout the Draft HCP, many sources of water quality impairments throughout the basin are beyond the applicants' control. Those sources include agricultural runoff from irrigated agriculture, generally, and irrigation practices by irrigation district patrons beyond the point of delivery. For further discussion of the limited scope of applicants' authority over private irrigation practices, refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*.

Recognizing that the applicants largely do not have control over water quality conditions other than temperature and stream flows resulting from the covered activities, the applicants developed a conservation strategy to mitigate incidental take only from those known water quality impacts under the applicants' jurisdiction (temperature, surface water elevations, and rates and volumes of stream flows). The applicants have revised Final HCP Chapter 3, *Scope of the DBHCP*, and their request for ITP coverage accordingly.

The approach adopted in the Final HCP ensures necessary flexibility for the applicants to implement other water quality improvements that may be legally required in the future. To the extent that the covered activities are contributing water quality impacts other than those related to temperature, surface water elevations, and stream flows, the final conservation strategy defers to the Oregon Department of Environmental Quality (ODEQ) as the appropriate entity to manage those water quality impacts comprehensively throughout the Deschutes basin. ODEQ is currently developing or has proposed to develop TMDLs for water-quality-limited streams throughout the Deschutes basin. Through the TMDL process, ODEQ will identify and allocate responsibility for water quality impairments throughout the basin. At that time, the applicants will comply with any new legal requirements and will continue to operate their return flows and other covered activities in compliance with all applicable laws. The applicants will also continue to comply with all other ODEQ and EPA water quality requirements, including NPDES permit requirements, to the extent that they apply to the covered activities.

In addition, the applicants did not adopt additional conservation measures proposed by commenters to reduce or otherwise address water quality impairments from irrigated agriculture, generally, or other sources not within the applicants' direct control.

HCP-9.15 Analysis and Mitigation for Return Flows Operated by Irrigators

Commenters stated that the HCP should have analyzed the water quality impacts from return flows operated directly by irrigators, included those return flows within the scope of the covered activities, or committed to conservation measures to mitigate the impacts of those non-District return flows.

Commenters

ORG-24, ORG-3, ORG-12, ORG-14, ORG-22, GP-192

Response

As commenters noted, the term “return flow” can also refer to locations where water from irrigation returns to surface waters after being applied to agricultural land. The applicants are not seeking ITP coverage for agricultural runoff or return flows operated directly by irrigators. The applicants do not have jurisdiction over irrigation practices on private property past the point of delivery. To the extent that irrigated agriculture contributes to water quality impairments throughout the covered lands, the Draft HCP and Draft EIS, as well as the Final HCP and Final EIS, account for those impacts through their environmental baselines.

For further discussion of the limited scope of applicants’ authority over private irrigation and agricultural practices, refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*. For further discussion of the HCP’s conservation strategy to address water quality impacts from the covered activities, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

Other Conservation Measures for Covered Fish Species

HCP-9.16 Conservation Measures to Enhance Smolt Migration

One commenter recommended that the HCP include additional conservation measures to increase steelhead and salmon survival during smolt outmigration.

Commenters

ORG-24

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a new conservation measure CR-7 to protect spring smolt migration pulse flows in the Cooked River from diversion by the applicants.

HCP-9.17 Conservation Measures to Improve Bull Trout Habitat

Commenters recommended that the HCP include additional commitments to improve habitat for bull trout, including by addressing temperature impairments in bull trout habitat.

Commenters

ORG-3, ORG-12

Response

The applicants have committed to several conservation measures, which should improve habitat for bull trout. These include improved instream flows in several stream reaches affected by HCP covered activities, such as the mainstem Deschutes River downstream of Big Falls, Whychus Creek, and the Crooked River and its tributaries. However, the applicant’s ability to make other additional commitments to improve bull trout habitat is limited because the applicants do not have authority regarding adverse effects from factors such as habitat fragmentation and nonnative fish species. Specifically, the applicants do not have the authority to address the factors that resulted in bull trout being extirpated from the Upper Deschutes River in the 1950s. For example, they do not own

Reclamation dams, which have fragmented and inundated historic bull trout habitats, and cannot address fish passage issues at the dams. Similarly, they do not have the ODFW's fisheries management authority needed to reduce the populations of nonnative fish species that adversely affect bull trout.

HCP-9.18 Conservation Measures to Reintroduce Bull Trout

One commenter recommended that the HCP include additional commitments to assess the feasibility of reintroducing bull trout above Big Falls, including funding eDNA analysis.

Commenters

ORG-14

Response

The applicants have not proposed any additional commitments regarding reintroduction of bull trout above Big Falls. Any discussion regarding reintroduction of bull trout and/or any related Endangered Species Act (10)(j) population releases is outside the scope of the HCP.

Irrigation Piping and Water Conservation

HCP-9.19 Increased Irrigation and Water Use Efficiency, Generally

Commenters stated that one or more of the Districts—or irrigation districts, irrigated agriculture, or water users, generally—use water inefficiently. Some commenters supported additional HCP commitments to increase irrigation efficiency, including on-farm efficiencies, instream water leasing, and water sharing or other coordination between the Districts.

Commenters

ORG-2, ORG-12, ORG-15, ORG-22, GP-7, GP-31, GP-35, GP-36, GP-41, GP-84, GP-96, GP-116, GP-124, GP-132, GP-133, GP-138, GP-139, GP-144, GP-145, GP-152, GP-155, GP-159 GP-161 GP-187, GP-189, FL-2, FLP-3, FLP-9, FLP-11, FLP-12, FLP-13, FLP-19, FLP-21, FLP-23, FLP-26, FLP-27, FLP-28, FLP-29, FLP-31, FLP-33, FLP-35, FLP-40, FLP-41, FLP-47, FLP-49, FLP-55, FLP-56, FLP-57, FLP-59, FLP-65

Response

The applicants have proposed a conservation strategy to increase stream flows in the Deschutes Basin over time, for the benefit of the covered species. The applicants' proposed conservation strategy relies primarily on enforceable flow targets that the applicants must meet to comply with the HCP. If the Services approve the Final HCP and issue the ITPs, those enforceable flow targets will decrease the overall amount of water available for irrigation and will necessarily require the applicants to increase the efficiency of irrigation delivery systems or secure alternative sources of water.

On-farm irrigation efficiency projects and other market-based transactions between private water users are beyond the scope of the HCP. However, the Services and the applicants are committed to improving irrigation efficiencies in the Deschutes basin through irrigation district modernization

projects (including canal piping) and supporting on-farm efficiency projects, to the extent consistent with the applicants' legal authorities under Oregon state law. For further discussion of the limited scope of applicants' authority over private irrigation and agricultural practices, refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*.

HCP-9.20 Irrigation and Water Use Efficiency, Generally

One commenter stated that irrigators use water relatively efficiently and that irrigation modernization efforts could further improve efficiency.

Commenters

GP-24

Response

The Services agree that modernization of irrigation delivery systems and practices provides great opportunity for conservation.

HCP-9.21 Reducing Irrigated Agriculture in the Deschutes Basin

One commenter supported reducing irrigated agriculture in the Deschutes basin and stated that crops grown in the Deschutes basin can be grown with greater water efficiency in other locations.

Commenters

GP-122

Response

Changing agricultural use patterns in the Deschutes Basin is outside of the scope of the Deschutes Basin HCP. For further discussion of the limited scope of applicants' authority over private irrigation and agricultural practices, refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*.

HCP-9.22 Opposition to Irrigation District Piping, Generally

Some commenters generally opposed irrigation district piping and other infrastructure upgrades or stated that the HCP over-relies on those projects. Commenters noted the relatively high cost of irrigation district piping compared to other water conservation measures and stated that other water conservation measures could be implemented more quickly. Commenters stated that piping projects disincentivize water conservation; some commenters believed that piping projects will ultimately prioritize hydroelectric power generation over efficient water deliveries. One commenter opposed piping of irrigation canals specifically within the City of Bend.

Commenters

ORG-22, GP-2, GP-34, GP-35, GP-123, GP-124, GP-144, GP-145, GP-169, FL-2

Response

The Final HCP provides the applicants necessary flexibility to implement the conservation measures through a variety of approaches, including operational adjustments, water efficiency and infrastructure projects (including irrigation district piping), water-market transactions, and other options.

HCP-9.23 Support of Irrigation District Piping, Generally

Commenters generally supported irrigation district piping and other irrigation district infrastructure upgrades as a means to promote water conservation or as a partial or complete strategy to implement the HCP.

Commenters

ORG-19, GP-152, GP-166, FLP-55, FLP-57, FLP-71

Response

The Services agree that modernization of irrigation delivery systems and practices provides great opportunity for conservation.

HCP-9.24 Water Conservation Alternatives to Irrigation District Piping

Commenters recommended that the HCP include commitments to implement alternative water conservation measures instead of or in conjunction with irrigation district piping. Recommended alternative water conservation measures included inter-District coordination and water sharing, water-market-based transactions (including water leasing and transfers), use of storage reservoirs, on-farm water conservation and irrigation efficiency measures by irrigation district patrons, piping of irrigation district laterals before piping main canals, and metering and on-demand delivery practices by the Districts.

Commenters

ORG-3, ORG-12, ORG-14, ORG-17, ORG-19, ORG-22, ORG-23, GP-84, GP-31, GP-35, GP-116, GP-123, GP-124, GP-144, GP-145, GP-152, GP-155, GP-161, GP-169, GP-172, GP-184, GP-187, GP-189, FL-2, FLP-10, FLP-14, FLP-17, FLP-19, FLP-21, FLP-23, FLP-26, FLP-27, FLP-33, FLP-34, FLP-35, FLP-40, FLP-55, FLP-57, FLP-59, FLP-65

Response

The Final HCP provides the applicants necessary flexibility to implement the conservation measures through a variety of approaches, including operational adjustments, water efficiency and infrastructure projects (including irrigation district piping), water-market transactions, and other options.

HCP-9.25 Inclusion of Irrigation District Piping in Draft HCP

One commenter stated that the Draft HCP should have included irrigation district piping commitments in the conservation measures and analyses.

Commenters

ORG-12

Response

The applicants' proposal allows for a variety of tools to be used to meet the minimum flows required by the final conservation measures. The broader the toolset available to the applicants, the greater the opportunity to realize necessary conservation benefits.

The piping of irrigation district canals is not required for successful implementation of the HCP. If the Services decide to issue the ITPs, the applicants expect to complete piping during the HCP term to ensure that they can obtain replacement water as their access to Crane Prairie, Wickiup, and Crescent Lake storage decreases. However, the instream flow targets required under the HCP are enforceable, regardless of whether the applicants acquire additional sources of water.

As further explained in Final HCP Section 1.9 –*Costs and Funding of the Habitat Conservation Measures*, and Section 9.9, *Inability of NUID to Secure Alternate Sources of Irrigation Water*, the applicants are justifiably optimistic that they can achieve necessary water conservation to implement the minimum flow targets through ongoing and planned piping of irrigation district canals to reduce seepage losses and increase the efficiency of the applicants' irrigation deliveries. However, two factors outside of the applicants' control bear on the timing and financial feasibility of completing those piping projects. The first is the availability of funding. The second is the potential for legal challenges to piping projects. Because of those external uncertainties, the applicants did not include planned piping projects within the scope of the HCP's conservation measures.

As an acknowledgement of the potential economic impact on North Unit ID from delayed acquisition of replacement water, Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, contains an additional changed circumstances provision that, if triggered, would allow the applicants to delay increasing winter minimum flows at WICO for up to two years. However, the new changed circumstances provision would not prevent the applicants from implementing—or the Services from enforcing—the conservation measure requiring increased winter minimum flows. Instead, the provision would simply allow North Unit ID up to two additional years to achieve the HCP's required minimum flow targets in the event of extreme economic circumstances that trigger the new changed circumstances provision.

HCP-9.26 Uncertainty of Funding for Irrigation District Piping

Commenters stated that there is uncertainty regarding the availability of funding for irrigation district piping.

Commenters

LOCAL-3, GP-84

Response

The Services understand that future funding of projects depends on future actions that may or may not occur. As such, the Draft HCP has been revised. Chapter 9, *Changed and Unforeseen Circumstances*, has been updated to reflect this uncertainty.

HCP-9.27 **Practicability of Alternative Water Conservation Approaches**

One commenter stated that the Draft HCP does not provide adequate mitigation because it does not adequately analyze the practicability of possible alternative mechanisms to conserve water besides irrigation district piping. The commenter stated that the applicants should have considered a basin-wide water conservation approach, based on inter-district coordination and water sharing, market-based water transactions, and voluntary and involuntary mechanisms to reduce water consumption by irrigation district patrons.

Commenters

ORG-12

Response

The applicants are not required to include all possible conservation strategies proposed by commenters as part of the HCP's alternatives analysis or justify impracticability of any conservation strategy proposed by commenters. Refer to HCP Handbook, Section 5.6.

For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

10 Monitoring, Reporting, and Adaptive Management

Effectiveness Monitoring and Adaptive Management

HCP-10.1 HCP Monitoring and Adaptive Management Provisions

Commenters recommended that the HCP include additional monitoring and adaptive management provisions and/or additional information and procedures to explain how monitoring and adaptive management provisions in the conservation measures would function. Commenters recommended that all conservation measures in the Final HCP include adaptive management provisions for all covered species on all covered lands. Some commenters provided specific recommendations regarding the additional elements that the commenters believed the HCP's monitoring and adaptive management programs should include.

Commenters

FED-1, ORG-3, ORG-10, ORG-11, ORG-12, ORG-14, ORG-15, ORG-20, ORG-22, GP-189

Response

The applicants (with input from the Services) developed the compliance and effectiveness monitoring and adaptive management provisions in Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, which are consistent with the requirements of ESA. Compliance monitoring, as distinguished from effectiveness monitoring, is necessary to ensure that the applicants implement the conservation measures as required and the Services can adequately respond to

noncompliance events. The applicants have updated the Final HCP to include compliance monitoring provisions for all conservation measures.

In contrast to compliance monitoring, effectiveness monitoring and adaptive management are not appropriate or required for every conservation measure. As further explained in Chapter 7 of the Final HCP, the applicants (with input from the Services) have determined that effectiveness monitoring and adaptive management measures are not necessary for those conservation measures where their effectiveness is not scientifically uncertain and where adaptive management would not be useful or appropriate to respond to scientific uncertainty. For those measures with uncertainty, adaptive management is included in Chapter 7.

HCP-10.2 Adaptive Management Procedures to Address Climate Change

Commenters recommended that the HCP and EIS include adaptive management provisions or general flexibility to address uncertainty surrounding the effects of climate change throughout the HCP term and for all EIS alternatives.

Commenters

ORG-10, ORG-11, ORG-12, ORG-14, ORG-17, GP-169, FLP-26

Response

The Final HCP has been designed to ensure that the applicants implement operational changes to minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable and provide adequate conservation benefits to the covered species, primarily by ensuring higher stream flows throughout the HCP term and giving the covered species priority over irrigation for water in the event of climate change. With input from the Services, the applicants determined that adaptive management provisions are not necessary to address climate change, based on the conservation approach provided in Final HCP Chapter 6, *Habitat Conservation*.

The proposed action and Alternatives 3 and 4 in the EIS include an adaptive management and monitoring program to ensure that the intended benefits to the covered species are being achieved. While adaptive management provisions were determined not to be necessary to address climate change, adaptive management and monitoring would provide a mechanism for identifying uncertainties and implementing effectiveness monitoring to inform future water management to adapt to the impact on the covered species from future climate change conditions. The adaptive management proposed can therefore result in changes in operational criteria based on new information to avoid adverse effects which may arise from conditions resulting from climate change.

HCP-10.3 HCP Effectiveness Monitoring and Adaptive Management — Crooked River Subbasin

Commenters specifically recommended that the HCP include additional effectiveness monitoring and adaptive management provisions for the proposed conservation measures relating to the Crooked River subbasin and/or additional information and procedures to explain how adaptive management provisions in the conservation measures would function. Some commenters provided specific recommendations for adaptive management on the Crooked River and its tributaries.

Commenters

FED-1, TRIBE-1, ORG-3, ORG-10

Response

The applicants' covered activities and Reclamation's storage and release of water from Bowman Dam both occur and overlap in the Crooked River. The HCP addresses effects of the covered activities observed in the Crooked River, where those effects are within the applicants' discretion and control; however, other effects are the result of Reclamation's storage and release of water from Bowman Dam and are, therefore, not appropriate to address through the HCP. For this reason, each Service will issue a BiOp that analyzes both the Services' issuance of ITPs and Reclamation's operations of Bowman Dam on the Crooked River. Further measures, monitoring, or other related terms and conditions resulting from Reclamation's action may be required as a result of the interagency consultation process under ESA Section 7.

HCP-10.4 HCP Effectiveness Monitoring and Adaptive Management — Crane Prairie Reservoir

Commenters specifically recommended that the HCP include additional effectiveness monitoring and adaptive management provisions for the proposed conservation measures relating to management of Crane Prairie Reservoir and/or additional information and procedures to explain how adaptive management provisions in the conservation measures would function. Some commenters provided specific recommendations for adaptive management of the reservoir, including adaptive management of reservoir levels to address impacts of invasive and predatory species.

Commenters

STATE-4, ORG-3, ORG-14

Response

Conservation Measure CP-1 in Final HCP Chapter 6, *Habitat Conservation*, includes additional provisions for management of Crane Prairie Reservoir to combat invasive species.

HCP-10.5 HCP Effectiveness Monitoring and Adaptive Management — Whychus Creek

Commenters specifically recommended that the HCP include additional effectiveness monitoring and adaptive management provisions for the proposed conservation measures relating to Whychus Creek and/or additional information and procedures to explain how adaptive management provisions in the conservation measures would function. Some commenters provided specific recommendations for adaptive management in Whychus Creek.

Commenters

FED-1, TRIBE-1, ORG-3, ORG-10

Response

The Draft HCP has been revised. In lieu of adaptive management, Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, includes a changed circumstances provision that will be triggered in the event that the HCP's biological objectives for Whychus Creek are not met.

HCP-10.6 HCP Effectiveness Monitoring and Adaptive Management — Upper Deschutes

Commenters recommended that the HCP include additional effectiveness monitoring and adaptive management provisions for the proposed conservation measures relating to the Upper Deschutes River and/or additional information and procedures to explain how adaptive management provisions in the conservation measures would function. Some commenters provided specific recommendations for adaptive management in the Upper Deschutes River.

Commenters

ORG-10, ORG-14

Response

Final HCP Chapter 6, *Habitat Conservation*, of the Final HCP includes provisions for adaptive management in the implementation of conservation measure WR-1 and management of flows in the Upper Deschutes River.

HCP-10.7 HCP Effectiveness Monitoring and Adaptive Management — Steelhead

One commenter requested additional clarification regarding how adaptive management provisions in the conservation measures relating to steelhead would function.

Commenters

ORG-10

Response

The Draft HCP has been revised. In lieu of adaptive management, Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, includes a changed circumstances provision that will be triggered in the event that the HCP's biological objectives for Whychus Creek are not met.

HCP-10.8 HCP Effectiveness Monitoring and Adaptive Management — Oregon Spotted Frog

Commenters specifically recommended that the HCP include additional effectiveness monitoring and adaptive management provisions for the proposed conservation measures relating to Oregon spotted frog and/or additional information and procedures to explain how adaptive management provisions in the conservation measures would function. Some commenters provided specific recommendations for adaptive management, including requiring egg mass counts and habitat surveys at all known Oregon spotted frog breeding sites and additional commitments or explanation

to ensure the adequacy of funding by the applicants for the egg mass counts and monitoring required by proposed Adaptive Management Measures CP-1.1 and CP-1.2.

Commenters

FED-1, ORG-10, ORG-12, ORG-15, GP-33

Response

Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, includes additional adaptive management and monitoring provisions for the Oregon spotted frog. In particular, provisions were added to fund Oregon spotted frog egg mass surveys and habitat assessments in the Upper Deschutes basin.

HCP-10.9 Water Quality Monitoring and Adaptive Management

One commenter recommended that the HCP include additional commitments by the applicants to conduct effectiveness monitoring adaptive management for water quality, including on the Crooked River. The commenter recommended that the HCP include additional adaptive management provisions to explain how Total Maximum Daily Loads would be integrated into the proposed conservation measures.

Commenters

FED-1

Response

The recommendation is outside the scope of the HCP. For further discussion of the HCP's treatment of water quality impacts and the related conservation strategy, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

Additional Monitoring

HCP-10.10 Monitoring Requirements for Redband Trout

One commenter recommended that the HCP include additional commitments to monitor redband trout populations.

Commenters

ORG-14

Response

Redband trout are not a covered species. The recommendation is beyond the scope of the HCP.

Compliance Monitoring and Enforcement

HCP-10.11 HCP Enforcement Measures

One commenter recommended that the HCP include additional provisions relating to enforcement of the HCP and/or additional information to explain how enforcement would occur. The commenter recommended that the HCP identify enforcement response actions in the event of noncompliance, including consequences, fines, and a defined process under which the applicants could lose ITP coverage.

Commenters

ORG-3, GP-188

Response

Final HCP Chapter 6, *Habitat Conservation*, includes a compliance protocol that specifies enforcement procedures and the applicants' and Services' respective obligations in the event of noncompliance. The protocol was designed to ensure reporting of noncompliance events in as near-real-time as possible, and to ensure that any necessary remedial action is taken as quickly as possible to maintain adequate conservation benefits to the covered species.

HCP-10.12 Frequency of HCP Compliance Reporting

Commenters recommended that the HCP require more frequent or real-time compliance reporting to better respond to real-time changes in river conditions that may adversely affect the covered species. One commenter recommended that the applicants be required to submit annual compliance reports earlier than the January 31 reporting date included in the Draft HCP, to allow more time to respond to noncompliance events before crucial life stages of covered species occur in March through April.

Commenters

FED-1, ORG-3, ORG-10, ORG-11, ORG-14, ORG-16

Response

Compliance and reporting requirements have been updated in Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*. The applicants have committed to reporting noncompliance events in as near-real time as possible, given the complexity of the Deschutes basin system and the variability of operations within the Districts. Some specific suggestions raised by commenters, including developing a network of stream gauges for real-time monitoring of flow and water quality and automating all District operations, were outside the scope of this HCP and are not necessary to minimize and mitigate the impacts of take resulting from the covered activities to the maximum extent practicable.

HCP-10.13 Availability of Monitoring and Compliance Information to the Public

Commenters recommended increased public transparency in monitoring and adaptive management under the HCP, including making monitoring and compliance information publicly available.

Commenters

ORG-14, ORG-20

Response

Any monitoring and compliance information submitted to the Services is publicly available. The annual report would be posted on the FWS' Deschutes Basin HCP website, currently located at: <https://www.fws.gov/Oregonfwo/articles.cfm?id=149489716>.

HCP-10.14 Third-Party Monitoring and Compliance Reporting

Commenters recommended that the HCP include additional commitments by the applicants to work with or fund an independent third party to oversee compliance monitoring and reporting under the HCP.

Commenters

ORG-11, ORG-14, ORG-20

Response

The applicants have committed to a monitoring, compliance, and enforcement protocol in Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, designed to meet the requirements of ESA. Third-party oversight is not necessary to ensure that the Final HCP meet ITP issuance standards.

HCP-10.15 Water Conservation Reporting

One commenter recommended that the HCP include additional commitments by the applicants to monitor and report information about water conservation by irrigation district patrons.

Commenters

GP-189

Response

The recommendation is outside the scope of the HCP. Refer to response to comment HCP-4.7, *Activities by Irrigation District Patrons*, for further discussion of the Districts' legal obligations and authorities related to private irrigation activities.

HCP-10.16 Monitoring Based on Species Recovery

One commenter recommended that the HCP require the applicants to monitor recovery or preservation of the covered species, rather than minimum flow compliance.

Commenters

GP-189

Response

Recognizing that the long-term goal of ESA is to bring species to a point where Endangered Species Act protections are no longer necessary, that does not mean that individual HCPs must ensure full recovery of covered species. In Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, the applicants have proposed compliance monitoring and effectiveness monitoring and adaptive management measures based on the goals and objectives of this HCP that meet the requirements of ESA. Monitoring of the status of the species or the success of the federal recovery effort is outside the scope of the HCP. However, Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, does include additional adaptive management and monitoring provisions for the Oregon spotted frog. In particular, provisions were added to fund Oregon spotted frog egg mass surveys and habitat assessments in the Upper Deschutes basin. These monitoring data will help inform the FWS' future status assessments.

HCP-10.17 Funding for Oregon Water Resources Department

One commenter supported increasing funding for OWRD to expand the agency's capacity to monitor instream water rights.

Commenters

ORG-10

Response

The recommendation is outside the scope of the HCP.

11 Analysis of Effects on Covered Species and Impacts of Take***Analysis of Effects, Generally*****HCP-11.1 Effects of Consecutive Dry Years**

One commenter stated that the Draft HCP does not adequately address the effects of consecutive dry years on the covered species. The commenter recommended that the HCP describe how it would adapt in dry years or consecutive dry years.

Commenters

STATE-4

Response

Dry years are a natural occurrence in the Deschutes basin, and the conservation strategies of the HCP were specifically designed to account for them. Most of the conservation measures of the Final HCP require the sharing of water between irrigation use and instream habitat for the covered species. In all cases, the Final HCP prioritizes water for the covered species over water for irrigation. During dry years, water for irrigation would be reduced while water for covered species would

remain constant unless drought conditions become severe and water is available for neither irrigation nor the covered species.

HCP-11.2 Effects of City of Prineville's Covered Activities

One commenter stated that the Draft HCP does not adequately analyze the effects, including water quality effects, of the City of Prineville's activities on the covered species or propose conservation measures to address those effects.

Commenters

STATE-4

Response

As described in Section 3.5.10, *City of Prineville Activities*, of the Draft and Final HCP, the City of Prineville is seeking ITP coverage for a limited set of covered activities: municipal groundwater withdrawals and discharge of municipal effluent to the Crooked River. In addition, as noted, the applicants have revised their request for ITP coverage to include only those water quality effects of the covered activities related to temperature, surface water elevations, and rates and volumes of stream flows. The applicants have collaborated with the Services to develop a final conservation strategy designed to minimize and mitigate the impacts of take from the City of Prineville's covered activities to the maximum extent practicable.

For further discussion of the HCP's conservation strategy to address water quality impacts from the covered activities, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

HCP-11.3 Presentation of Hydrological Data in HCP

One commenter had suggestions for different ways of organizing and presenting hydrological information graphically in the HCP.

Commenters

STATE-4

Response

The presentation of large data sets in a public document is always challenging. The applicants considered multiple approaches before arriving at the format in the HCP. Fortunately, the digital format of the Final HCP allows readers to enlarge the graphs for greater resolution. All graphs in the Final HCP are high-resolution images that can be greatly expanded to discern details.

HCP-11.4 Presentation of Outputs in Tables

One commenter requested an explanation of the minimum flow presented for April 1 through September 15 (Years 21-30 of the HCP term) in Draft HCP, Tables 8-38 and 8-42. The commenter advocated using a seven-day moving average of model output in the table for minimum and maximum flows.

Commenters

STATE-1

Response

The numbers questioned by the commenters (148 cfs in Table 8-38 and 267 cfs in Table 8-42) were calculation errors in the Draft HCP. Those errors have been corrected in Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. Minimum flows are provided in these and other tables, because a number of the HCP's conservation measures require calculating minimum flows on a daily average basis. The use of seven-day averages would not be appropriate for this analysis.

HCP-11.5 Reference Conditions

Commenters suggested greater reliance on the use of natural flows as a reference condition for evaluating the effects of the HCP.

Commenters

STATE-4, ORG-12, ORG-15

Response

The HCP analysis of effects compares future conditions under the HCP to both natural (unregulated) and historical (regulated) conditions. This approach and the supporting rationale are explained in Final HCP Section 6.1.1, *HCP Approach to Minimization and Mitigation*. The Final HCP includes extensive discussion and documentation of natural conditions on the covered lands, and it explains in detail why return to natural conditions in the Deschutes basin is neither achievable nor desirable for the covered species. In many cases, changes to the physical structure of the covered rivers and creeks over the past 70 years have left them incapable of supporting the covered species under natural flows. Nevertheless, an understanding of natural conditions is essential to a clear understanding of the effects of the HCP on the covered species. Natural conditions are therefore identified and described throughout the analyses in Final HCP Chapter 6, *Habitat Conservation Plan*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*.

Water Quality Effects on Covered Species**HCP-11.6 Draft HCP Water Quality Analysis**

Commenters stated that the Draft HCP generally did not adequately analyze the water quality impacts of the covered activities—including irrigation district return flows and runoff from irrigated agriculture—and their effects on the covered species to support issuance of the ITPs. Some commenters stated that the Draft HCP did not adequately analyze the water quality impacts of the covered activities specifically within the Crooked River subbasin and Lower Deschutes River.

Commenters

TRIBE-1, ORG-24, ORG-3, ORG-12, ORG-14, ORG-22, GP-192

Response

The ITPs being sought by the applicants cover the take of Endangered Species Act-listed species that occurs or could occur during the performance of the otherwise lawful activities of storing, releasing, diverting, and returning irrigation water. As required by federal law, the ITPs focus on addressing compliance with ESA. The ITPs do not provide the applicants with permission or approval related to any other regulatory requirements they may have, including compliance with the federal Clean Water Act (CWA). Consequently, the applicants collaborated with the Services to develop an HCP that minimizes and mitigates only those water quality effects of the covered activities for which the applicants are seeking ITP coverage, and only to the extent those activities affect covered species. In Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, the applicants conducted those water quality analyses necessary to support their request for ITP coverage, but did not conduct other water quality analyses outside the scope of the HCP or the ITP applications.

For further discussion of the HCP's conservation strategy to address water quality impacts from the covered activities, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

Effects Analysis — Anadromous Fish, Generally**HCP-11.7 Consideration of Previous Flow and Water Quality Studies for Fish**

One commenter stated that the Draft HCP did not consider previous stream flow and water temperature modeling and studies.

Commenters

ORG-22

Response

The applicants, with technical assistance from the Services, conducted an extensive and exhaustive review of available information on the covered lands over the past 11 years, including all available studies and models. A number of studies were not used in the Final HCP's analysis because the applicants, with input from the Services, determined that those studies were: a) redundant, b) obsolete and replaced by more recent studies, or c) related to topics or resources unaffected by the covered activities. The models and studies used in the Final HCP and Final EIS have been subject to extensive peer review within and outside the HCP Working Group.

HCP-11.8 Fish Habitat in the Crooked River

Commenters offered views different from those presented in the Draft HCP on current habitat conditions and future habitat potential for Covered fish species in the Crooked River.

Commenters

ORG-24, ORG-12, ORG-15, ORG-22

Response

The Draft HCP's characterization of habitat conditions in the Crooked River is based on physical observations and measurements of the river by multiple parties over the past decade. Some of the comments challenging the HCP characterization were based on observed or assumed presence of individual fish rather than measurements of the habitat. Habitat assessments based solely on observations of animal presence are generally unreliable, particularly when presence is assumed but not documented.

Other comments referenced studies and/or recommendations developed more than 20 years ago, prior to more recent work that has been done to support the HCP and the use of Prineville Reservoir uncontracted storage for fish and wildlife. The collective understanding of current habitat conditions and future habitat potential of the Crooked River has advanced considerably over the past 20 years, and this understanding was the basis for the analyses of effects presented in the Draft and Final HCP.

Summer flow was long considered a significant contributing factor limiting salmonid fish production in the lower Crooked River, and this assumption is the basis for many of the comments received on the Draft HCP. Recent studies and hydrologic analyses, however, indicate that increasing summer flows would have only limited and localized benefit to salmonids because it would not result in a significant or consistent decrease in water temperature, which is more likely the limiting factor. More importantly, increasing flows during the summer would cause a corresponding decrease in flows during the fall, winter and spring, which are equally limiting for salmonid rearing in the Crooked River.

HCP-11.9 Fish Effects Analysis Methods

Commenters addressed specific details of the HCP's analyses of effects on Covered fish species.

Commenters

STATE-4, ORG-24, ORG-12

Response

The Services acknowledge all additional scientific information, analyses, and resources cited by commenters and will take that information into account—as well as information provided in the Final HCP and the Final EIS—in our ITP issuance decision documents and the corresponding HCP-specific BiOps required under ESA Section 7. Refer to HCP Handbook, Chapters 14 and 15 (identifying Services' responsibilities and required analyses to finalize the HCP and issue ITPs).

In addition, specific responses to some comments regarding the HCP's analyses of effects on Covered fish species are provided individually below.

Comment: *"The HabRate model for steelhead and spring Chinook spawning in the Crooked River says fair and poor, but good spawning near Opal Springs was identified (HCP Chapter 8.2.3.1). PGE has documented adult steelhead throughout the Crooked River and as far up as Big Bend Campground below Bowman Dam (Burchell et al. 2016). The bulk of our observations are using radio telemetry as it is very difficult to observe spawning behavior and redds due to turbidity issues during the spawning months."*

Response: Since 2012, annual returns of reintroduced steelhead to the Pelton Fish Trap have averaged fewer 58 adults, and only a small portion of these fish have subsequently returned to the Crooked River basin (Burchell 2018, 2019, 2020). Radio telemetry monitoring has revealed that of these adults, the majority remain in the lowest reaches of the Crooked River, primarily downstream of Highway 97 Bridge. Unfortunately, such low numbers have not warranted a full redd count program (PGE and CTWSRO 2020) and high turbidity limits the ability to observe spawning behavior of radio tagged adults (Burchell 2018), although Mt Hood Environmental only intermittently encountered prohibitive turbidity issues during studies done to evaluate the effects of the HCP. In the absence of actual fish observations, the HabRate modeling by Spateholts and Wymore (2017) represents the best available science on spawning habitat for steelhead in the Crooked River. Chinook salmon are no longer covered by the HCP.

Comment: *"PGE has concerns on how the Crooked River juvenile O. mykiss and Chinook salmon reach capacity/ flow relationships in the HCP were developed in the Mount Hood Environmental (MHE) reports and the conclusions that were derived as a result. Concerns include:*

1) The reach capacity estimates for the Crooked River were based on density estimates derived from snorkeling in a river that is 303(d) listed for turbidity, likely leading to underestimation of fish present and negatively biasing reach capacity estimates. In 2019, ODFW observed considerable numbers of O. mykiss in reaches that MHE sampling did not and that by criteria used in the HCP, should not have O. mykiss. (T. Porter, fish biologist, Prineville ODFW, pers. comm.).

2) Although the ODFW steelhead fry stocking locations were noted incompletely in Figure 1 (Blackman 2019), no consideration of how the clumped distribution of stocking locations could have impacted sampling results on which reach capacity estimates were based; The MHE report states "observations of yearling O. mykiss were rare in reaches C-2 and C-3 during both summer and winter." (Blackman 2019). In fact, no O. mykiss were stocked by ODFW in reach C-2 or the lower two-thirds of reach C-3 in 2017 potentially severely influencing the MHE reach capacity estimates and ultimately the derived reach capacity/flow relationship upon which the HCP depends.

3) Mt. Hood Environmental's analysis of juvenile steelhead density predicts reach capacity based on a static salmonid population limited by reach MWATs. This methodology totally discounts the ability of O. mykiss to move seasonally and even daily within the Crooked River and its tributaries (Ochoco and McKay Creeks) to avoid suboptimal temperatures. The report includes "migratory behaviors" as a reason for the observation of age 1+ juvenile Chinook salmon between —RM 10 to Bowman Dam (Blackman 2019a, page 2) but does not include this attribute for possible explanation of O. mykiss densities. Evaluation of Crooked River Watershed Council water quality data does indeed show that higher than optimal temperatures occur in reaches of the Crooked River, but these temperatures can be transitory in nature and should not permanently "remove" affected stream reaches as potential juvenile habitat once conditions ameliorate. The Mt. Hood Environmental report and, subsequently, the HCP do not acknowledge this fact.

4) Calculation of Crooked River juvenile Chinook salmon reach capacities relied on literature values. No empirical data of Chinook salmon densities and habitat use could be collected in 2018 because chinook salmon fry were not stocked into the Crooked River subbasin by ODFW in 2017. As a result, "the calculated rearing habitat area is a conservative estimate due to the exclusion of any reach with average depths outside the suitable ranges" (Blackman 2019b, page 1). This conservative estimation

could severely underestimate the effects of flow on Chinook salmon rearing habitat and jeopardize consideration of the EIS alternatives."

Response:

1) Visibility is an issue in the Crooked River during some weeks and in some locations throughout the year. However, snorkel surveys were only conducted when visibility met the standard criteria of 1.5 meters, as defined by the Columbia River Inter-tribal Fish Commission (White et al. 2012). Additionally, Mt. Hood Environmental (MHE) incorporated an observation probability into their N-mixture density model design to account for detection error from individual divers and passes (because they used a double observer method). Based on the MHE study in 2018 and subsequent site visits, it is their opinion that snorkeling is a viable method of fish observation in the Crooked River when visibility criteria are met. MHE's juvenile steelhead survey protocols for the Crooked River basin are available upon request.

Temperatures and other habitat parameters are linked to observed fish counts at the time of sampling. The MHE study took place in 2018 and therefore ODFW observations in 2019 are not applicable to the conditions in 2018. Given that this data collection occurred after the MHE study was completed, it was not possible for MHE to include it in their modeling. However, should this analysis be repeated in the future, it would be especially useful to combine MHE and T. Porter's datasets since there is a dearth of fish data relating juvenile density specifically to mesohabitat in the Crooked River basin.

2) Juvenile steelhead are highly mobile and will seek available habitat. It is extremely unlikely that ODFW-released fish would remain "clumped" in their stocking locations over the duration of this study. Nevertheless, MHE communicated with ODFW prior to surveying to choose study sites proximal to ODFW juvenile planting locations and increase the probability of observing juvenile steelhead. Although MHE's inference is limited to a single year, they surveyed fish throughout the basin and are confident that reaches were adequately represented. More generally, habitat features and summer temperatures in the C-2 and C-3 reaches were suboptimal for juvenile steelhead and it is unlikely, under the observed conditions, that these areas provide significant rearing habitat. Comprehensive spatial data for the 197 survey locations used in this analysis are available upon request.

3) The estimate of steelhead capacity uses a proportional relationship between habitat features and fish density from a distribution of observed densities across all reaches of the Crooked River. This distribution does not assume a static population, rather, it assumes that fish have access to the range of conditions throughout the basin and are not distributed uniformly. MHE surveyed areas across a wide range of temperatures habitat features including optimal thermal refugia in C-1 and suboptimal to lethal temperatures in C-2. This provided fish densities across a wide range of available habitat conditions to establish the relationship between habitat parameters and fish density. The assumption that fish are mobile and thus non-uniformly distributed across this range of conditions is inherent to the model. The covariates from that Crooked River basin-wide N-mix model were then applied to reach-specific habitat data (AIP) that was evaluated under different flow conditions.

For each HCP scenario, detailed flow and temperature predictions were made at nodes throughout the Crooked River (Berger et al. 2019) and the corresponding capacity was modeled through the basin. This approach was designed to capture the [basin wide fish distribution under the warmest summer temperatures, when rearing habitat is limited by temperature. Indeed the MWAT metric

used in the model represents the warmest week, and, in several reaches this is the harshest thermal condition for fish. By using MWAT, MHE predicted capacity based on a worst-case scenario (warmest), which provides useful information for policy and management decisions on consequences of the proposed action. It is intentional that this method does not highlight ideal conditions, rather, the purpose is to identify when and where fish are most limited by habitat conditions under a proposed action and alternatives.

4) Chinook salmon is no longer a covered species in the Final HCP.

Comment: *"8.2.3.2 (Pages 8-80 - 86). Low summer and winter flows limit steelhead potential. Department sampling identifies a modest redband population below Willowdale bridge. This suggests there is production potential for steelhead if sufficient flow was maintained during migration and spawning. Similar to the Crooked, conservation measures could reduce irrigation demand and increase storage available for increased fish flows: 10 cfs October-April, 5 cfs May- September.*

ODFW Instream Flow Incremental Methodology (IFIM) studies recommend flows of 90-120 cfs to meet life history needs of steelhead and Chinook salmon in the Crooked River."

Response: The flows for Ochoco Creek and the Crooked River proposed and evaluated in the Final HCP are designed to minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable.

Effects Analysis — Crooked River Flows

HCP-11.10 Uncontracted Storage Releases from Bowman Dam

One commenter stated that the Draft HCP's effects analysis does not adequately address the operation of Prineville Reservoir, the use and protection of uncontracted storage (fish and wildlife water) in Prineville Reservoir, and the diversions of water from the Crooked River by parties other than those covered by the HCP.

Commenters

ORG-15

Response

The operational and storage activities cited by the commenter are outside the control and responsibility of the applicants, and thus are not appropriate for inclusion in the HCP. Incidental take permits issued under Section 10 of ESA cover non-federal actions, and HCPs prepared in support of ITPs can only include conservation measures over which the non-federal applicants have control. The operation of Prineville Reservoir and the storage and release of uncontracted storage in the reservoir are federal actions under the jurisdiction of Reclamation. Any incidental take of Endangered Species Act-listed species associated with these federal actions must be addressed through consultation on Bowman Dam operations pursuant to Section 7 of the Endangered Services Act, which Reclamation and the Services are conducting, in coordination with but separately from, the Services' decisions on the HCP and ITP applications. Diversions of water from the Crooked River by non-federal parties other than the applicants cannot be covered in or controlled through the HCP.

Effects Analysis — Whychus Creek Flows

HCP-11.11 Effects of Covered Activities on Whychus Creek

Commenters stated that the Draft HCP's analyses of effects on Covered fish species relied on incorrect stream gauges in Whychus Creek which, when combined with a misinterpretation of channel seepage losses, resulted in underestimation of the HCP's effects on Whychus Creek. Other commenters predicted increases in irrigation diversions from Whychus Creek under the HCP or suggested confusion regarding the covered activities.

Commenters

ORG-16, ORG-21

Response

The Final HCP has been revised. Subsequent to public review of and comment on the Draft HCP, the Services and applicants worked with the Upper Deschutes Watershed Council and Deschutes River Conservancy to clarify the covered activities, correct errors in the analyses of effects, and revise the conservation measures for Whychus Creek. These changes are reflected in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*.

Conclusions in Effects Analysis, Generally

HCP-11.12 Harm to Covered Species under Draft HCP

One commenter stated that the applicants would continue to cause harm to the covered species under the Draft HCP.

Commenters

ORG-12

Response

The applicants have applied for ITPs because they cannot avoid harm to listed species during the performance of their otherwise lawful activities. HCP applicants are not required to avoid all harm through an HCP, but rather to minimize and mitigate the impacts of take from covered activities to the maximum extent practicable. Before deciding whether to issue the ITPs, the Services will ensure that the conservation strategy in the Final HCP provides adequate conservation to minimize and mitigate the impacts of take from the covered activities, including harm to the covered species that rises to the level of take, to the maximum extent practicable.

HCP-11.13 Inconsistencies in the Analyses of Effects and Inadequacy of the Draft HCP

Commenters identified conclusions or analyses in the Draft HCP that they viewed as inconsistent with the descriptions of effects on covered species, including on fish, in other sections of the Draft HCP. Some commenters suggested that the Draft HCP does not provide adequate conservation

benefits to the covered species, or recommended that the HCP mitigate impacts associated with past operations of reservoirs and diversions covered under the HCP.

Commenters

ORG-12, ORG-15, FLP-7

Response

In collaboration with the Services, the applicants have revised the HCP to remove any apparently conflicting statements. Before making final decisions on the ITP applications, the Services will ensure that the Final HCP provides sufficient mitigation to meet Endangered Species Act standards for the issuance of ITPs.

12 Other Comments on Effects Analysis

Effects on Beaver Activity

HCP-12.1 Impediments to Increased Beaver Activity

One commenter stated that the Draft HCP's effects analysis did not adequately account for practical and legal impediments to increased beaver activity.

Commenters

GP-164

Response

The Services acknowledge the resources and analysis cited by the commenter. Some of the commenter's recommendations are beyond the scope of the HCP. The Services recognize the ecological benefits that beaver provide on the landscape and agree that projects benefiting beaver would also benefit the covered species.

Effects on Bull Trout

HCP-12.2 Analysis of Effects on Bull Trout

Commenters stated that the HCP does not adequately analyze the effects of the covered activities or the HCP on bull trout.

Commenters

ORG-12, ORG-14

Response

The HCP is a habitat-based HCP and the effects of the covered activities are therefore described in terms of habitat. Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*,

identifies miles of bull trout habitat on the covered lands, as well as the effects of the covered activities on those habitats in terms of changes in flow and temperature.

HCP-12.3 Geographical Extent of Bull Trout

Commenters stated that the Draft HCP does not adequately account for the full geographical extent of areas where bull trout are likely to be present.

Commenters

ORG-12, ORG-14

Response

The HCP's assessment of bull trout presence on the covered lands is based on the best available scientific information provided by ODFW and others during development of the HCP. Overall, bull trout presence in the Deschutes basin is restricted by water temperatures and other limiting factors. However, the HCP does analyze the effects of the covered activities on bull trout in all occupied and future potentially occupied habitat. Nevertheless, the Deschutes basin has been identified as a stronghold for bull trout due to the cold and consistent flows in the Metolius River subbasin and the foraging opportunities in Lake Billy Chinook. The activities covered by the Final HCP would have immeasurable effects on the status of the Deschutes basin as a stronghold for bull trout.

HCP-12.4 Effects on Bull Trout in Whychus Creek

Commenters noted an inconsistency in the description of flows in Whychus Creek under the Draft HCP.

Commenters

ORG-12, ORG-16

Response

The Draft HCP has been revised to correct this inconsistency in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*.

Effects on Steelhead

HCP-12.5 Analysis of Effects on Steelhead

Commenters stated that the HCP does not adequately analyze the effects of the covered activities on steelhead.

Commenters

STATE-4, TRIBE-1, ORG-12

Response

The HCP is habitat-based, and the effects of the covered activities are therefore described in terms of habitat. The miles of steelhead habitat on the covered lands are identified and the effects of the covered activities on those habitats are described in terms of changes in flow and temperature. This detailed evaluation of effects on steelhead is provided in Final HCP Section 8.2, *Steelhead Trout*.

HCP-12.6 Background Information on Steelhead

One commenter stated that the Draft HCP does not provide adequate detail regarding the habitat requirements of steelhead.

Commenters

ORG-12

Response

Final HCP Section 5.2, *Steelhead*, contains a summary of the habitat requirements of the species at a level of detail sufficient to support analysis of the effects of the covered activities and issuance of the ITPs. That summary is based on information provided by ODFW and other fisheries agencies participating in the HCP Working Group from 2009 through 2019. The HCP is not a recovery plan or reintroduction plan for steelhead in the Upper Deschutes basin, and as such need not provide the level of detail needed to support those larger efforts. Nevertheless, the information provided on steelhead in the Final HCP is accurate, up to date, and sufficient for the Services to make final determinations on the ITP applications.

HCP-12.7 Question Regarding Temperature Modeling for Steelhead

One commenter noted the recent application of the CE-QUAL-W2 water temperature model to the lower Crooked River and requested additional information on the results of the modeling effort.

Commenters

ORG-10

Response

The results of the CE-QUAL-W2 modeling by Portland State University are summarized in Final HCP Section 8.1.3, *Crooked River Subbasin*. That section also describes how the results of the modeling were incorporated into the Final HCP analyses of effects on bull trout and steelhead in the Crooked River.

HCP-12.8 Adequacy of Mitigation for Steelhead

Commenters raised questions or concerns regarding the adequacy of the proposed minimization and mitigation measures for steelhead in the Draft HCP and recommended alternative approaches.

Commenters

ORG-12, ORG-14

Response

Some commenters urged standards that are not supported by law. The HCP is not a comprehensive plan for the reintroduction or recovery of any species, including steelhead. The HCP cannot jeopardize the continued existence of the species and must be consistent with the issuance criteria set for in the ESA Section 10(a)(2)(B). The reintroduction of steelhead to the Upper Deschutes basin was initiated in 2008 based on NMFS's determination that the reintroduction could be successful, given the ongoing restoration work by conservation organizations, the Pelton Round Butte habitat and water conservation fund in support of local restoration, the ongoing water conservation projects by the Districts, and general broad support for the reintroduction. The Services will make our final ITP issuance decisions based on our analyses of the effects of the covered activities on steelhead in light of that historical information.

HCP-12.9 Effects on Steelhead in Whychus Creek

Commenters stated that the Draft HCP does not adequately analyze effects on steelhead of stream flows in Whychus Creek.

Commenters

ORG-12, ORG-14, ORG-16

Response

The Draft HCP has been revised. Subsequent to public review of and comment on the Draft HCP, the Services and applicants worked with the Upper Deschutes Watershed Council and Deschutes River Conservancy to clarify the covered activities, correct errors in the analyses of effects, and revise the conservation measures for Whychus Creek. These changes are reflected in Final HCP Chapter 6, *Habitat Conservation*.

Effects on Chinook Salmon**HCP-12.10 Comments on Analyses of Effects on Chinook Salmon**

Commenters offered suggestions for or raised concerns regarding the analyses of effects on Chinook salmon presented in the Draft HCP.

Commenters

ORG-12, ORG-14, ORG-16

Response

The HCP has been revised. The applicants are no longer seeking ITP coverage for Chinook salmon, which is currently not an Endangered Species Act-listed species in the Deschutes basin. All references to Chinook salmon, including analyses of effects of the covered activities on Chinook salmon, have been removed from the Final HCP.

Effects on Oregon Spotted Frog

HCP-12.11 Background Information on Oregon Spotted Frog

Commenters requested additional background information in HCP Chapter 5 and offered views of the current status and biological requirements of the Oregon spotted frog different from those presented in Chapter 5.

Commenters

ORG-12, ORG-15

Response

FWS and the applicants have conducted extensive reviews of the biological requirements and current conditions of the Oregon spotted frog in the Upper Deschutes basin. By necessity, the information provided in Final HCP Chapter 5, *Current Conditions of the Covered Species*, is a summary of the available information for reference by the general public. Nevertheless, all pertinent and accurate information available to FWS and the applicants was considered in the development of the HCP, and FWS will also consider those documents during its preparation of the associated BiOp and Section 10 findings documents.

HCP-12.12 General Approach to Oregon Spotted Frog Effects Analyses

Commenters suggested the analyses of effects in Chapter 8 of the Draft HCP did not consider historical or current Oregon spotted frog populations and habitat conditions on the covered lands. Some commenters suggested that the analyses in the Draft HCP did not consider the quality of habitat to be provided under the HCP and that the analyses were not adequately detailed or site-specific.

Commenters

ORG-12, GP-33

Response

The quality of habitat to be provided under the HCP is described and evaluated in detail in Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. This analysis includes detailed assessment of inundation levels to be provided in Oregon spotted frog habitats based on RiverWare modeling. Forecasts of habitat conditions to be provided by future hydrology are based on the most recent research on Oregon spotted frogs in the Deschutes basin and habitat suitability models developed specifically for the Deschutes River. Unique aspects of Oregon spotted frog habitat in the Deschutes basin are thoroughly considered in the analyses to avoid inaccurate extrapolation of information gathered from other portions of the species' range with different climate, vegetation, and hydrology.

Some of the comments regarding the level of detail provided in the Draft HCP quote introductory summary statements from the document without acknowledging detailed discussions that follow. The Final HCP incorporates all available information on historical and current Oregon spotted frog populations and habitats on the covered lands and in the surrounding basin. FWS and the applicants

relied heavily upon that information during the development of the conservation measures and the analyses of effects. FWS will further expand those analyses, as required, in its BiOp accompanying their final determination on the ITP applications. Where there are unavoidable gaps in the historical or current conditions, FWS and the applicants have been and will continue to be conservative (in favor of the species) in their assessment of effects.

HCP-12.13 Use of Habitat as a Surrogate for Assessing Impacts on Oregon Spotted Frog and Other Covered Species

One commenter questioned the use of habitat as a surrogate for the species when evaluating the impacts of the covered activities.

Commenters

ORG-12

Response

FWS used habitat as a surrogate in its Deschutes Project 2017 and 2019 BiOps and recognizes this as an appropriate method for analysis. The use of habitat as a surrogate for the species is a widely accepted, and often necessary, approach to the development of an assessment of an HCP. This is particularly true for evaluating take of an r-selected species such as the Oregon spotted frog, which has a high reproductive rate, a high natural mortality rate, and a secretive lifestyle that make accurate census of all life stages impossible. The application of habitat as a surrogate in the HCP's analyses of effects is based on the best available information on current habitat conditions and habitat use by the Oregon spotted frog specifically in the Deschutes basin. Any attempt to correlate the anticipated changes in habitat with a quantified population response would be speculative.

HCP-12.14 Rate of Anticipated Improvements in Oregon Spotted Frog Habitat

Commenters raised concerns regarding the timing of proposed increases in winter flows for Oregon spotted frogs in the Upper Deschutes River. Some commenters suggested that the winter flows proposed in the Draft HCP do not provide adequate conservation benefits. Some commenters recommended specific alternative conservation strategies targeting Oregon spotted frog.

Commenters

ORG-12, ORG-14, ORG-15, GP-33, GP-150

Response

The timing of proposed increases in winter flow in the Upper Deschutes River in the Draft HCP has been modified (accelerated) for Final HCP Chapter 6, *Habitat Conservation*. The accelerated timing required by the final conservation measures provides considerable improvement for Oregon spotted frog habitat, compared to the strategy initially proposed in the Draft HCP, while still reflecting the necessary balance between the biological goals of improving winter habitat conditions and avoiding impacts on summer habitats as wetlands along the Deschutes River adjust to the new lower summer flows. To coincide with increases in winter flows, the Final HCP now includes caps on summer flows to limit the adverse effects of unnaturally high flows. The Final HCP also includes the Upper Deschutes Basin Habitat Conservation Fund to support habitat restoration/enhancement along the

Upper Deschutes River. The effects (benefits) of the accelerated increases in winter flows and caps on summer flows are evaluated in Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. Improvements to the RiverWare model for the Upper Deschutes basin between the Draft HCP and Final HCP have also resulted in changes to predicted Deschutes River flows that are reflected in the Chapter 8 analyses of the Final HCP. Overall, those updated flow predictions indicated improved conditions for Oregon spotted frogs during all seasons.

HCP-12.15 Baseline Reference Condition for Analysis of Effects on Oregon Spotted Frog

One commenter questioned the use of historical flow conditions rather than natural flows as a baseline for evaluating the effects of the HCP on Oregon spotted frog.

Commenters

ORG-12

Response

The HCP analysis of effects compares future conditions under the HCP to both natural (unregulated) and historical (regulated) conditions. This approach and the supporting rationale are explained in Final HCP Section 6.1.1, *DBHCP Approach to Minimization and Mitigation*. The Final HCP includes extensive discussion and documentation of natural conditions on the covered lands, and it explains in detail why return to natural conditions in the Deschutes basin would likely not provide the habitat function that is most beneficial to the species that have adjusted in distribution to the past 70 years of water management. Nevertheless, an understanding of natural conditions is essential to a clear understanding of the effects of the HCP on the covered species. Natural conditions are therefore identified and described throughout the analyses in Final HCP Chapter 6, *Habitat Conservation*, and Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*.

HCP-12.16 Relationship Between HCP and Other Threats to Oregon Spotted Frog

One commenter suggested a number of causal relationships between the covered irrigation activities and other threats to the Oregon spotted frog such as non-native predators.

Commenters

ORG-14

Response

The Final HCP summarizes the threats to the Oregon spotted frog in the Upper Deschutes basin that have been identified by FWS, and describes the relationships between the covered activities and those threats at the current level of understanding. As required by Section 10 of ESA, the conservation measures in Final HCP Chapter 6, *Habitat Conservation*, are designed to minimize and maximize the impacts of take from the covered activities to the maximum extent practicable. The Final HCP includes funding for the Upper Deschutes Basin Habitat Conservation Fund, which will be used in part to reduce or eliminate threats to Oregon spotted frog in the basin, such as threats from non-native predators. FWS will provide additional and more comprehensive analysis of overall threats to the species in its BiOp in support of the FWS' final determination on the ITP application.

That analysis will identify, to the extent that is biologically defensible, the relationships between the covered activities and those threats.

Analysis of Impacts of Taking, Generally

HCP-12.17 Assessment of Impacts of Taking, Generally

Commenters stated that the Draft HCP does not adequately measure the impact of the taking resulting from the covered activities and that, as a result, the Services cannot issue the ITPs.

Commenters

ORG-12

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comments on both documents before making permit decisions on the ITP application. The Services agree that the Final HCP “must identify the impacts likely to result from the proposed incidental take.” HCP Handbook, Section 8.2.2.

HCP-12.18 Quantification of Level of Take

Commenters stated that the Draft HCP does not adequately quantify the level of expected take resulting from the covered activities and does not describe its method for quantifying take. Commenters also stated that the HCP should quantify the level of expected take for each covered species.

Commenters

ORG-12, ORG-14

Response

HCP applicants must initially evaluate the types and amount of take “to help make better informed decisions during the development of the HCP’s conservation program.” HCP Handbook, Section 12.1. “Like many other aspects of the HCP planning process, determining the extent of take and development of the conservation program are a dynamic and iterative process.” *Id.* “As the conservation program is developed, the applicant and the Services may find more ways to reduce take. Once the take has been minimized, the applicant can determine the final type and amount of anticipated take.” *Id.* “This is the amount of take that they anticipate will occur from covered activities over the life of the permit after accounting for the minimization measures that they commit to implement.” *Id.* “Take from implementation of conservation actions must be added to the total amount of take associated with the project.” *Id.*

The Services agree that the Final HCP “must identify the impacts likely to result from the proposed incidental take” for each covered species. HCP Handbook, Section 8.2.2; see also *id.* at Section 12.2 A Final HCP can properly identify those impacts either through “defined units to quantify impacts in terms of taking a number of affected individual animals or acceptable habitat surrogate units within the plan area.” *Id.* With technical assistance from the Services, the applicants have determined that,

in this case, habitat surrogates are the appropriate measure of take, and this approach has been incorporated in the Final HCP. That approach will align the HCP impacts analysis with the Services' Section 7 analyses. *See id.* at Section 8.4. Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, includes additional detail quantifying impacts of the take in terms of habitat surrogates for each covered species.

HCP-12.19 Quantification of Level of Take Caused by Districts' Return Flows

One commenter stated that the HCP does not adequately quantify the level of expected take or habitat modification caused by the Districts' return flows and their impacts on water quality parameters, including temperature, pH, and E. coli.

Commenters

ORG-14

Response

As noted, the applicants have revised their request for ITP coverage to include only those water quality effects related to temperature, surface elevations, and rates and volumes of stream flow. For further discussion of the HCP's conservation strategy to address water quality impacts from the covered activities, refer to response to comment HCP-9.14, *Conservation Measures to Improve Water Quality Other than Temperature and Stream Flows*.

The applicants are not required to separately quantify the level of take expected to result from each individual covered activity or quantify the level of take for impacts on the covered species for which the applicants are not seeking ITP coverage. However, the Final HCP identifies the level of take expected to result from the covered activities collectively and analyzes the impacts of that take on the covered species, consistent with the requirements of ESA.

All covered return flows are described in Final HCP Chapter 3, *Scope of the DBHCP*, which includes the timing and rate of return for each return flow. The hydrologic effects of the returns are accounted for in the RiverWare modeling that was the basis for all analyses of flows in the Final HCP. The Final HCP also accounts for temperature effects of all covered return flows. In the Crooked River subbasin, the temperature effects of the return flows are incorporated into the CE-QUAL-W2 water temperature modeling that was conducted to support the analysis of effects on covered fish. The temperature effects of return flows in Trout Creek and Mud Springs Creek are described in detail in Final HCP Section 8.2.6, *Trout Creek and Mud Springs Creek*.

Reference Conditions for Impacts Analysis

HCP-12.20 Use of Historical Conditions as Baseline

Commenters stated that the Draft HCP improperly relied on historical conditions as the baseline for analyzing the impacts of the proposed incidental take and, therefore, underestimated the impacts of the take on the covered species and, in particular, anadromous fish. Commenters stated that the Draft HCP should have relied on natural, pre-development conditions as the baseline.

Commenters

ORG-12, ORG-14, ORG-15

Response

The analysis compares HCP conditions to both natural conditions and historical regulated conditions to provide the most comprehensive assessment of effects possible with the available information. The HCP is habitat based and, as such, the effects of the covered activities and the benefits of the conservation measures are described primarily in terms of habitat. The amount of habitat on the covered lands is quantified (primarily in acres and/or miles) and the effects on those habitats are quantified in detail as changes in wetted area, water depth, and/or water temperature. This extensive and detailed analysis of effects is provided in Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, in the Draft and Final HCPs.

Conservation Targets**HCP-12.21 Biological Needs of Anadromous Fish**

One commenter stated that the Draft HCP did not analyze the flows necessary to provide for adult migration, spawning, incubation, rearing and outmigration and appropriate temperatures for summer steelhead and Chinook salmon in the Lower Crooked River and Ochoco and McKay Creeks.

Commenters

ORG-12

Response

Final HCP Section 8.1.3, *Crooked River Subbasin*, includes an analysis of the relationship between flow and habitat quality for all life stages of bull trout in the Crooked River subbasin. Final HCP Section 8.2.3, *Crooked River Subbasin*, contains a similar analysis for steelhead, and Section 8.3.3 provides comparable information for sockeye salmon. In all three sections, the effects of the covered activities and the conservation measures on all life stages of the covered fish species are discussed in detail.

Temporal Scale of Impacts Analysis**HCP-12.22 Analysis Based on 30-Year Term**

One commenter stated that the Draft HCP impacts analysis, based on a 30-year timeframe, underrepresents short-term impacts on the covered species.

Commenters

ORG-12

Response

The Draft HCP properly analyzed effects on covered species and the impacts of take of the covered species over 30 years, because the applicants have proposed to implement the HCP over 30 years. Refer to response to comment HCP-4.1, *Reduced HCP and ITP Term*, for further discussion of the applicants' decision to request a 30-year permit term.

"Like many other aspects of the HCP planning process, determining the extent of take and development of the conservation program are a dynamic and iterative process." HCP Handbook, Section 12.1. "As the conservation program is developed, the applicant and the Services may find more ways to reduce take. Once the take has been minimized the applicant can determine the final type and amount of anticipated take." *Id.* "This is the amount of take that they anticipate will occur from covered activities over the life of the permit after accounting for the minimization measures that they commit to implement." *Id.* (emphasis added). The Services have collaborated with the applicants to develop a Final HCP that accurately analyzes the extent of take and impacts of take expected to result from the HCP during the term of the Final HCP and ITPs.

13 Other Analyses

Climate Change

HCP-13.1 Climate Change Analysis

Commenters disagreed with specific details of the Draft HCP's analysis of future climate change conditions and recommended additional explanation regarding how the HCP considers climate change forecasts, particularly with respect to potential low summer flows.

Commenters

ORG-12, ORG-14

Response

Final HCP Section 4.9, *Climate Change*, includes additional information on the potential effects of climate change on the effectiveness of the conservation measures.

HCP-13.2 Flow Study

One commenter requested that a flow study be conducted to evaluate water levels through the Meadow Camp reach of the Deschutes River.

Commenters

GP-114

Response

The requested study is outside the scope of the HCP.

14 Changed and Unforeseen Circumstances

Changed and Unforeseen Circumstances, Generally

HCP-14.1 Specificity of Changed and Unforeseen Circumstances Provisions

One commenter recommended that the Draft HCP be revised to offer specific actions and additional commitments from the applicants to meet specific biological goals and objectives when changed circumstances occur.

Commenters

ORG-14

Response

Under the federal No Surprises Rule, “changed circumstances” are “changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the [Services and that can be planned for (e.g., the listing of new species, or a fire or other natural catastrophic event in areas prone to such events).” 50 CFR § 17.3; 50 CFR § 222.102. Chapter 9, *Changed and Unforeseen Circumstances*, of the Draft HCP identifies changed circumstances that the applicants and the Services have reasonably anticipated and planned for, including the listing of new species and other changes in the federal status of species, habitat changes due to flooding, failure or impairment of dams or diversion structures, non-emergency maintenance and repairs of covered facilities, changes in the biological status of covered species due to factors unrelated to the covered activities, and climate change.

Chapter 9 of the Draft HCP identifies specific response actions designed to maintain the biological goals and objectives and conservation benefits of the Draft HCP. As explained in Chapter 9 of the Draft HCP, in some cases, the applicants proposed no additional response actions when changed circumstances occur, because the proposed conservation measures in the Draft HCP were designed to account for those changed circumstances and maintain adequate conservation benefits to minimize and mitigate the impact of the applicants’ take to the maximum extent practicable, accounting for a variable hydrological system.

The applicants have revised the Draft HCP, and the Final HCP includes additional changed circumstances provisions. Refer to Final HCP Chapter 9, *Changed and Unforeseen Circumstances*.

HCP-14.2 Removal of Unforeseen Circumstances Provisions

Commenters recommended eliminating the Draft HCP’s unforeseen circumstances provisions or clarifying the definition of unforeseen circumstances and the process to trigger the unforeseen circumstances provisions.

Commenters

ORG-20, GP-189

Response

Under the federal No Surprises Rule, “unforeseen circumstances” are “changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by plan developers and the [Services at the time of the conservation plan’s negotiation and development, and that result in a substantial and adverse change in the status of the covered species.” 50 CFR § 17.3; 50 CFR § 222.102. The No Surprises Rule requires that the HCP include “unforeseen circumstances” provisions. Final HCP Chapter 9, *Changed and Unforeseen Circumstances*, identifies the process through which the Services may identify and notify the applicants of an unforeseen circumstance, as well as the applicants’ responsibilities upon receiving that notice.

HCP-14.3 Changed Circumstances vs. Adaptive Management to Address Climate Change

One commenter cited to the HCP Handbook discussion of changed circumstances to address climate change and stated that the Draft HCP should have included adaptive management provisions to address climate change.

Commenters

ORG-12

Response

“Changed circumstances are circumstances that can be reasonably anticipated and specifically addressed in an HCP prior to permit issuance.” HCP Handbook at 9-38. “Adaptive management is a strategy for addressing uncertainty associated with an HCP’s conservation program, particularly uncertainty that poses a significant risk to the covered species.” *Id.* Applicants are required to consider the effects of changing climatic conditions when developing the list of changed circumstances. *Id.* at 9-44. However, the HCP Handbook does not guide applicants to develop adaptive management provisions specific to climate change. Chapter 9, *Changed and Unforeseen Circumstances*, of the Draft and Final HCP includes changed circumstances provisions to address climate change. For further discussion of those provisions, refer to response to comment HCP-10.2, *Adaptive Management Procedures to Address Climate Change*.

15 Costs and Funding

HCP Funding, Generally

HCP-15.1 Adequate Funding Assurances

One commenter stated that the Draft HCP does not contain adequate funding assurances that the HCP will be implemented. The commenter stated that the HCP should include an additional funding plan including the capital costs of implementing District piping projects.

Commenters

ORG-12

Response

Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, details the costs that each applicant expects to incur to implement the Final HCP and identifies the sources of funding on which each applicant expects to rely. If the Final HCP is approved, some applicants will pipe existing irrigation canals to conserve water so that they may continue to provide reliable water to their patrons during HCP implementation, but the piping is not necessary to implement the HCP. As further explained in Final HCP Section 9.9, *Inability of NUID to Secure Alternate Sources of Irrigation Water*, two factors outside of the applicants' control bear on the timing and financial feasibility of completing piping projects. The first is the availability of funding. The second is the potential for legal challenges to piping projects. Because of those external uncertainties, the applicants did not include planned piping projects within the scope of the HCP's conservation measures.

Nevertheless, Chapter 10 estimates the costs to each applicant of canal piping and other infrastructure improvements anticipated to avoid curtailment of water deliveries during HCP implementation. As detailed in Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, the applicants would rely on a combination of public and private funding, including public grant funds and assessments of irrigation district patrons to fund canal piping.

Public Funding for HCP Implementation**HCP-15.2 Disclosure of Public Funding Data**

One commenter recommended that the Services require the applicants to disclose the amount of public funding that has been used or is proposed to be used to fund HCP implementation.

Commenters

ORG-12

Response

There is no prohibition on using public funding to implement the HCP, so long as the specific funding source does not provide contrary restrictions. As detailed in Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, the applicants would fund HCP implementation through both public and private sources. The applicants are not required to include in the HCP the amount of public funding that has been used or would be used to implement the HCP.

HCP-15.3 Opposition to Public Funding for Irrigation District Piping

Commenters opposed the applicants seeking federal and other public funding for District piping projects to implement the HCP. Commenters suggested that the Districts and their patrons should instead bear those costs.

Commenters

ORG-1, ORG-3, ORG-12

Response

If the Final HCP is approved, some applicants will pipe existing irrigation canals to conserve water so that they may continue to provide reliable water to their patrons during HCP implementation, but canal piping is not necessary to implement the HCP. As detailed in Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, the applicants would rely on a combination of public and private funding, including public grant funds and assessments of irrigation district patrons to fund canal piping. There is no prohibition on using public funding to implement the HCP, so long as the specific funding source does not provide contrary restrictions.

HCP-15.4 Support for Public Funding for Irrigation District Piping

Commenters supported public funding for District piping and other irrigation system modernization upgrades to implement the HCP.

Commenters

LOCAL-3, ORG-20

Response

The Services acknowledge this comment. As detailed in Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, the applicants would rely on a combination of public and private funding, including public grant funds and assessments of irrigation district patrons to fund canal piping.

HCP-15.5 Specific Sources of Public Funding for Irrigation District Piping

Commenters recommended that irrigation system piping be funded through local bond measures and fees from recreational river users.

Commenters

GP-24, GP-27, GP-28

Response

The Services acknowledge this comment. As detailed in Final HCP Chapter 10, *Costs and Funding of the Proposed Conservation Measures*, the applicants would rely on a combination of public and private funding, including public grant funds and assessments of irrigation district patrons to fund canal piping.

16 Alternatives to the Proposed Incidental Take***Alternatives Analysis, Generally*****HCP-16.1 Consideration of Alternatives, Generally**

Commenters stated that the Draft HCP did not provide a reasonable range of alternatives, fully consider practicable alternatives, evaluate how alternatives might better serve the needs of the

covered species compared to the conservation measures proposed in the Draft HCP, or adequately explain the decision not to adopt viable alternatives. Some commenters identified alternative conservation approaches that they believed the HCP should have considered, including alternatives developed by FWS as part of the Draft EIS.

Commenters

ORG-3, ORG-12, ORG-14, ORG-15

Response

HCP Chapter 11, *Alternatives to the Proposed Incidental Take*, details the applicants' alternatives analysis.

To satisfy the legal standards for HCPs, HCP applicants must demonstrate that they reasonably considered alternatives to the proposed taking, including alternatives to avoid or reduce the take, and explain why they did not select each alternative. HCP Handbook, Section 5.6. The Endangered Species Act and its implementing regulations do not require that the HCP include a specific number of alternatives. HCPs typically, but do not always, include a "no-take" or "take avoidance" alternative. *See id.* HCP applicants are not required to justify impracticability of any alternative that they do not select, nor are they required to conduct a full alternatives or practicability analysis for other possible conservation strategies proposed by members of the public. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

The HCP alternatives analysis is distinct from the NEPA alternatives analysis. The NEPA alternatives that the Services must analyze are alternatives to the Federal action of issuing the ITP based on the HCP proposed by the applicants and including terms and conditions to comply with the HCP. HCP Handbook, Section 5.7. "These alternatives are not necessarily the same as the HCP's alternatives to the taking." *Id.* To satisfy legal standards for HCPs and ITP issuance, the applicants are not required to address in the HCP any alternatives developed separately through the NEPA process. To the extent that commenters intended to direct their remarks to the NEPA alternatives analysis, please refer to response to comment EIS-5.3 *Range of Alternatives*.

HCP-16.2 Consideration of No-Take Alternative

Commenters stated that the Draft HCP inappropriately dismissed a "no-take" or "take-avoidance" alternative. Commenters suggested that a "no-take" or "take-avoidance" alternative would be practicable.

Commenters

ORG-12, ORG-15

Response

As detailed in Final HCP Section 11.2, *Take Avoidance*, the applicants did not pursue a take-avoidance alternative, because it would be either economically impracticable or technically impossible to implement such an alternative. Section 10 of ESA provides a mechanism to authorize incidental take when non-federal entities find it technically or economically infeasible or undesirable to avoid take.

The Applicants have chosen to pursue that legally available option and have applied for incidental take coverage for take that the Applicants believe is technically or economically infeasible or undesirable to avoid.

HCP-16.3 Consideration of Alternatives to Reduce Take

One commenter stated that, for some geographic units within the covered lands and waters, the Draft HCP inappropriately dismissed alternatives that would result in less incidental take than the proposed conservation measures. Commenters suggested that alternative conservation measures to reduce take are available and practicable.

Commenters

ORG-12

Response

As detailed in Section 11.2, *Take Avoidance*, of the Draft and Final HCPs, the Applicants did not pursue a take-avoidance alternative, because it would be either economically impracticable or is currently considered technically impossible to implement such an alternative.

Comments on Specific Alternatives Analyses

HCP-16.4 Alternatives Analysis for Draft Conservation Measures for Upper Deschutes River

Commenters stated that alternative conservation measures are available and practicable to provide higher instream flows in the Upper Deschutes River than proposed in the Draft HCP. One commenter stated that neither the Draft HCP nor the Draft EIS adequately justified the decision not to implement those alternatives.

Commenters

ORG-3, ORG-12, ORG-14, ORG-15

Response

As detailed in Chapter 11, *Take Avoidance*, of the Draft and Final HCPs, the Applicants explained that the alternatives to draft conservation measure WR-1 would significantly strain North Unit ID's financial capabilities. Despite those constraints, the Applicants have committed to additional conservation measures for the Upper Deschutes River in the Final HCP, to provide the conservation benefits designed to minimize and mitigate the impacts of take from the Covered activities to the maximum extent practicable.

HCP-16.5 Alternatives Analysis for Draft Conservation Measures for Middle Deschutes River

One commenter stated that the Draft HCP's conservation approach for the Middle Deschutes River (proposed conservation measure DR-1) was "arbitrary and capricious" because alternative

conservation measures, including market-based water management options, are available and practicable and would conserve more water for protected species.

Commenters

ORG-12

Response

HCPs are applicant-driven processes. Applicants draft the HCP with technical assistance provided by the Services. The Services do not choose the conservation measures that applicants propose, but they do provide guidance regarding the effectiveness of those measures to meet the biological goals and objectives detailed in the HCP. Therefore, reference to an “arbitrary and capricious” standard regarding the Applicants’ choices for conservation measures is not appropriate.

In order for the Services to issue an ITP the following criteria must be met: (1) the taking will be incidental to otherwise lawful activities; (2) an applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking; (3) the applicant will ensure that adequate funding for the plan will be provided; (4) the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild; and (5) the applicant will carry out any other measures the Service requires as necessary or appropriate for the purposes of the plan. 50 CFR § 17.32(b)(2).

For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

HCP-16.6 Alternatives Analysis for Draft Conservation Measures for Whychus Creek

One commenter stated that alternative conservation measures are available and practicable to provide higher instream flows in Whychus Creek than proposed in the Draft HCP.

Commenters

ORG-12

Response

The Final HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, includes additional conservation measures to improve flow and temperature in Whychus Creek. For further discussion of those conservation measures, refer to response to comment HCP-8.27, *Conservation Measures to Improve Flows and Temperatures in Whychus Creek*, and Final HCP Chapter 6.

Neither the Services nor the Applicants are required to evaluate the practicability of other possible conservation strategies proposed by members of the public to justify the Applicants’ decision not to incorporate those recommendations in the Final HCP. For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

HCP-16.7 Alternatives Analysis for Draft Conservation Measures for Crooked River Subbasin

Commenters stated that alternative conservation measures are available and practicable to provide higher instream flows or greater conservation benefits, generally, to the covered species in the Crooked River subbasin than proposed in the Draft HCP.

Commenters

ORG-3, ORG-12, ORG-14, ORG-15

Response

The Final HCP has been revised, and Final HCP Chapter 6, *Habitat Conservation*, includes additional commitments to provide higher instream flows and additional conservation benefits to the covered species in the Crooked River.

Neither the Services nor the Applicants are required to evaluate the practicability of other possible conservation strategies proposed by members of the public to justify the Applicants' decision not to incorporate those recommendations in the Final HCP. For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

HCP-16.8 Alternatives Analysis Specific to Climate Change

One commenter stated that the Draft HCP should have included an analysis of alternatives specific to climate change.

Commenters

ORG-15

Response

The Final HCP has been designed to ensure that the Applicants implement operational changes to minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable and provide adequate conservation benefits to the covered species, primarily by ensuring higher stream flows throughout the HCP term and giving the covered species priority over irrigation for water in the event of climate change.

For further discussion of the required HCP alternatives analysis, refer to response to comment HCP-16.1, *Consideration of Alternatives, Generally*. For further discussion of the HCP practicability analysis, refer to response to comment HCP-17.2, *Practicability of Other Possible Conservation Approaches, Generally*.

17 Maximum Extent Practicable Standard

Maximum Extent Practicable Standard, Generally

HCP-17.1 Draft HCP Practicability Analysis, Generally

Commenters generally stated that the Draft HCP does not satisfy the “maximum extent practicable” standard or that the Services cannot issue ITPs on the basis of the information provided in the Draft HCP related to “practicability.”

Commenters

ORG-3, ORG-12, ORG-14, ORG-15

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comment on both documents before making permit decisions on the ITP application. Those public comments have informed the completion of the final documents, and will inform the Services’ subsequent permit decisions. The Services will complete findings and recommendations memoranda in conjunction with our decisions on the ITP applications pursuant to 16 U.S.C. § 1539(a)(2)(B), documenting how the Final HCP complies with the legal criteria for HCPs and ITPs under Section 10 of ESA. The Applicants have collaborated with the Services to develop a Final HCP designed to meet all legal requirements for ITP issuance, including attempting to demonstrate that the Final HCP will minimize and mitigate the impacts of take from the covered activities to the maximum extent practicable.

HCP-17.2 Practicability of Other Possible Conservation Approaches, Generally

Commenters stated that the Applicants could feasibly implement specific conservation measures to mitigate the impacts of the taking not adopted in the Draft HCP and, therefore, have not satisfied the “maximum extent practicable” standard. In some cases, commenters suggested that alternatives considered in either the Draft HCP or the Draft EIS would be practicable and, therefore, the alternatives analyses in the Draft HCP or Draft EIS were not adequate. In some cases, commenters suggested different alternatives not considered in the Draft HCP or the Draft EIS that the commenters believed would be practicable.

Commenters

ORG-3, ORG-12, ORG-14, ORG-15

Response

To satisfy the legal standards for ITP issuance, the Services must find that the proposed conservation strategy in the Final HCP will minimize and mitigate the impacts of the incidental take to the maximum extent practicable. 16 U.S.C. § 1539(2)(B)(ii). The Services may find that the final conservation strategy satisfies the maximum extent practicable standard because either (a) it fully offsets the impacts of the proposed incidental take, or (b) if the Applicants cannot fully offset the impacts of the taking, it is not practicable to carry out any additional minimization or mitigation.

HCP Handbook at 9-28-9-29. Where “fully offset” will not be achieved, the Services may find that additional conservation measures are not practicable, because either (a) there are insufficient implementation options or (b) financial constraints limit the applicants’ ability to practicably do more. *Id.* at 9-33. If the Services find that the proposed conservation strategy in the Final HCP does not fully offset the impacts of the take, the Services must conduct an independent practicability analysis. The Services may properly base that independent analysis on information provided in the HCP as well as other sources of information cited by commenters.

The HCP is a voluntary, applicant-driven document. If the Final HCP meets legal standards for ITP issuance, including providing a conservation strategy that minimizes and mitigates the impacts of Applicants’ incidental take to the maximum extent practicable, the Services will issue the ITPs. The Services cannot force the Applicants to adopt additional or different conservation measures, if the conservation measures in the Final HCP provide legally sufficient mitigation. Neither the Services nor the Applicants are required to evaluate the practicability of other possible conservation strategies proposed by members of the public to justify the Applicants’ decision not to incorporate those recommendations in the Final HCP.

HCP-17.3 Relationship of Practicability Analysis to Quantification of Take

One commenter stated that the Draft HCP’s practicability analysis is flawed because the Draft HCP does not quantify the level of take resulting from the covered activities.

Commenters

ORG-12

Response

The Services agree that the Final HCP must identify the type and amount of incidental take that could result from the Applicants’ proposed activities. Because the HCP is habitat based, the quantification of take in the HCP is also habitat based. Final HCP Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*, quantifies the numbers of acres of habitat for the Covered species affected by the covered activities and the conservation measures in the HCP. The Services and the Applicants have collaborated on a final conservation strategy, incorporating recommendations from the public to provide adequate conservation benefits to the covered species designed to satisfy ITP issuance standards. The Final HCP quantifies the level of take expected to result from the covered activities, as modified by the final conservation strategy included in the Final HCP. Refer to Final HCP, Chapter 8, *Effects of the Proposed Incidental Take on the Covered Species*. The Services will base our ITP issuance findings, including those findings relating to the maximum extent practicable standard, on the Final HCP.

Comments on Information Related to Practicability in Draft HCP

HCP-17.4 Determination of Practicability Based on Information Provided in Draft HCP

Commenters raised multiple legal arguments and other comments pertaining to the Applicants’ discussion of “practicability” in Section 11.8 and other parts of the Draft HCP.

Commenters

ORG-12, ORG-14, ORG-15

Response

As noted in Draft HCP Section 11.8.1, *General Considerations*, the Applicants provided information related to the feasibility or “practicability” of each Applicant implementing conservation measures additional to those proposed in the Draft HCP as “background” to the Draft HCP’s alternatives analysis. The Applicants provided that information, in part, to explain the reasons that the Applicants did not ultimately adopt alternatives considered as part of the conservation strategy proposed in the Draft HCP. *See id.*

The Services agree with the commenters that, ultimately, the Services are responsible for determining that the Final HCP satisfies the maximum extent practicable standard. In order to issue the ITPs, the Services must find that the final conservation strategy in the Final HCP either (a) fully offsets the impacts of the proposed incidental take or (b) provides adequate mitigation to the maximum extent practicable. If the Services find that the final proposed conservation strategy in the Final HCP does not fully offset the impacts of the take, the Services will conduct an independent practicability analysis. The Services may properly base that independent analysis on information provided by the Applicants, including information on economic costs to the Applicants and other practical considerations provided in the Final HCP, as well as other sources of information cited by commenters.

Response to Comments on the Draft EIS

1 Process

Public Review and Comment Period

EIS-1.1 Length of Public Review and Comment Period Compared to Guidance

Commenters expressed that the 45-day public review and comment period did not meet the requirements defined in the Services' *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (U.S. Fish and Wildlife Service and National Marine Fisheries Service 2016), hereafter referred to as the HCP Handbook.

Commenters

ORG-3, ORG-12, ORG-15, TRIBE-1

Response

The formal public review and comment period for the Draft EIS and Draft HCP represents only one component of the public input process. The Draft HCP is the result of several years of collaboration among the applicants, the Services, and multiple stakeholders within the region. In recognition of the fact that most people within the basin are affected by the river, the applicants, and the Services took several steps to incorporate public input into the development of the Draft HCP. Governmental agencies and organized non-governmental groups with established interests in the Deschutes River were invited to participate in the HCP Working Group beginning in 2008. The HCP Working Group met up to four times a year throughout HCP preparation to help guide each step of the process, from the initiation of baseline studies, to selection of covered species, to the development and review of conservation measures. When specific technical issues were identified, Technical Working Groups were assembled from the members of the larger Working Group with specialized expertise to provide the applicants, and the Services with detailed input. In addition, a broader Stakeholder Group was created to keep the greater Central Oregon community apprised of HCP development and solicit their input. The Stakeholder Group, which has met eight times since 2008, is open to anyone within the Deschutes Basin with an interest in the effects of the HCP on biological, economic or social resources of the basin.

Aside from the HCP collaboration and working groups, a 60-day scoping period for the Draft EIS was also provided in 2017 between July 21, 2017 and September 22, 2017. During this period four public meetings were held in central Oregon and 52 written comments were received, which FWS considered in the development of the Draft EIS.

The Services published the draft *Deschutes River Basin Environmental Impact Statement* (Draft EIS) and Draft Deschutes Basin Habitat Conservation Plan (Draft HCP) in the *Federal Register* on October 4, 2019 (84 *Federal Register* 53164 and 53114), opening a 45-day public review and comment period. The Services' HCP Handbook guides the Services' staff when determining the required length of a public review and comment period for HCP and EIS Notices of Availability. However, the recommended public review and comment periods provided in the HCP Handbook are for guidance purposes only and are not mandatory.

A 45-day public review and comment period for the release of the Draft EIS and Draft HCP was initially selected in accordance with the public review and comment period requirements defined in the following.

- ESA Section 10(a)(C) (16 U.S.C. §§ 1531–1544), which requires a 30-day public review and comment period
- CEQ’s NEPA implementing regulations (40 CFR §§ 1500–1508 and specifically found in § 1506.10(c)) which requires a public review and comment period of no less than 45 days
- U.S. Department of the Interior’s (DOI’s) NEPA regulations (43 CFR § 46 and specifically found in Subpart 46.415(c)), which require a public review and comment period of no less than 45 days.
- DOI Secretarial Order 3355, which implements Executive Order 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure Projects*.

Following the release of the Draft EIS and Draft HCP and in response to public requests, the Services granted a 15-day extension to the Draft EIS and Draft HCP public review and comment period (84 *Federal Register* 58169 and 61026). This increased the public review and comment period to the 60-day period reflected in the HCP Handbook.

In support of the Draft EIS and Draft HCP public review and comment period, public open house meetings were also held in October 2019 in Bend and Prineville, Oregon. These meetings provided further opportunities for the public to learn about the contents of the Draft EIS and Draft HCP, to speak directly to the authors and technical experts, and to submit official public comments.

Several commenters suggested that FWS should have extended the public review and comment period to allow for a 90-day public review and comment period, which the lead agency may do subject to their discretion. However, in this case, FWS determined that providing additional time for public review and comment, outside of the 60 days provided, was not necessary or practicable due to the many other opportunities for public comment that have been provided, and the need to complete the NEPA process and associated permit decision in a timely manner.

EIS-1.2 Length of Public Review and Comment Period

Some commenters expressed that the 45-day public review and comment period was not long enough to allow review of both the Draft HCP and Draft EIS given that the two documents were released simultaneously and were both lengthy and complex.

Commenters

TRIBE-1, ORG-3, ORG-10, ORG-12, ORG-15

Response

Complexity and Length

The development of an HCP is an applicant-driven process yet should reflect the requirements of the ESA regulations and guidance in the Services’ HCP Handbook. As a result, the content and length of an HCP is not the responsibility of the Services. That said, the Services have worked with the

applicants and provided technical assistance as required throughout the HCP development process to make sure that the HCP is fit for purpose.

With regard to the development of the Draft EIS, FWS recognized that given the technical and complex nature of the proposed action, no-action alternative and action alternatives and their associated analyses, the Draft EIS needed to be written and compiled in a manner that would facilitate understanding and ease of navigation, while meeting the informational requirements of the CEQ and DOI NEPA Implementing Regulations, and guidance in the Services' HCP Handbook.

To facilitate understanding, information in the Draft EIS and Draft HCP was presented in plain language and in a streamlined and easily navigable format. Emphasis was placed on summarizing relevant information that was useful to the public, agencies, and decision-makers. This included retaining focus on the proposed action, no-action alternative and action alternatives, environmental effects and impacts, and proposed conservation measures, as well as using technical appendices to avoid including highly technical analysis in the main body of the Draft HCP and Draft EIS. Both the Draft HCP and Draft EIS were accompanied by an executive summary that summarized the Draft EIS and Draft HCP to enable a reader to rapidly become acquainted with a large body of material without having to read the documents in their entirety.

To further support this approach, both the applicants and the Services involved, governmental agencies, tribal representatives, cooperating agencies, multiple stakeholders, and the public throughout the preparation of both the Draft HCP and Draft EIS. The purpose of this involvement was for these parties to assist the Services in the identification of significant environmental issues and alternatives deserving of study, to deemphasize insignificant issues, and to narrow the scope of the documents.

This approach balanced the need for technical information and readability of the documents and is fully consistent with the procedural and informational requirements of the, ESA regulations, the CEQ and DOI NEPA implementing regulations, and guidance in the Services' HCP Handbook.

Joint Release

Where an ITP requires NEPA analysis, the Services run these two public review and comment periods concurrently, so that all public comments on both documents can be considered in both the NEPA process and associated permit decision and that they can be completed efficiently and in a timely manner.

While the Draft EIS and Draft HCP are large, comprehensive documents containing a wealth of information on a variety of important topics, every effort was made to facilitate the ease of public review and comment. For instance, both documents were made available online, individuals seeking assistance in locating specific topics within the Draft HCP or the Draft EIS were able to contact staff directly with questions via phone or email, and hearing- or speech-impaired individuals could call the Federal Relay Service for assistance. In addition, public open house meetings were held in October 2019 in Bend and Prineville, Oregon during the public review and comment period. These meetings provided further opportunities for the public to learn about the contents of the documents, to speak directly to the authors and technical experts, and to submit official public comments.

The formal public review period for the Draft HCP and Draft EIS represents only one component of the public input process. The Draft HCP is the result of several years of collaboration between the applicants, the Services, and multiple stakeholders with the region. In recognition of the fact that most people within the basin are affected by the river, the applicants, and the Services took several

steps to incorporate public input into the development of the Draft HCP. Governmental agencies, tribal representatives, and organized non-governmental groups with established interests in the Deschutes River were invited to participate in the HCP Working Group beginning in 2008. The Working Group met up to four times a year throughout HCP preparation to help guide each step of the process, from the initiation of baseline studies, to selection of covered species, to the development and review of conservation measures. When specific technical issues were identified, Technical Working Groups were assembled from the members of the larger Working Group with specialized expertise to provide the applicants, and the Services with detailed input. In addition, a broader Stakeholder Group was created to keep the greater Central Oregon community apprised of HCP development and solicit their input. The Stakeholder Group, which has met eight times since 2008, is open to anyone within the Deschutes Basin with an interest in the effects of the HCP on the biological, economic or social resources of the basin.

Aside from the Draft HCP collaboration and working groups, a 60-day scoping period for the Draft EIS was also provided in 2017 between July 21, 2017 and September 22, 2017 during which four public meetings were held in central Oregon and 52 written comments were received, which FWS considered during the development of the Draft EIS.

In conclusion, based on the approach taken to develop the Draft HCP and Draft EIS, both documents are fully consistent with the procedural and informational requirements of ESA regulations, CEQ and DOI NEPA implementing regulations, and guidance in the Services' HCP Handbook. In addition to this, the public comment and review period for the Draft EIS and Draft HCP was extended to 60 days (refer to the response to comment EIS-1.1, *Length of Public Review and Comment Period Compared to Guidance*). Given this, the Services determined that the length of the public review and comment period was sufficient to review the Draft EIS and Draft HCP.

EIS-1.3 Timing of Public Meetings

One commenter expressed concern that the public meetings were held less than two weeks after the public notice, Draft EIS, and Draft HCP were published, which was not enough time to provide fully considered, constructive, and actionable comments.

Commenters

ORG-3

Response

While public involvement is important to the Services and serves a critical role as part of the NEPA process, the CEQ and DOI NEPA implementing regulations do not contain specific timing requirements for open house public meetings. The open house public meeting dates were as follows.

- Bend, OR: Tuesday, October 15, 2019, from 6 a.m. to 8 p.m.
- Prineville, OR: Wednesday, October 16, 2019, from 6 a.m. to 8 p.m.

The open house public meeting dates were selected based on the original 45-day public review and comment period, which allowed for between 11 and 12 days of review of the Draft EIS and Draft HCP prior to the open house public meetings being held. The Services did not expect attendees to have completed their review of the documents prior to either of the meetings and the timing of the open house public meetings was specifically selected to enable reviewers to raise any initial

comments or questions they may have had. In support of this, and as publicized, technical experts were also in attendance at the public meetings. Each technical topic had a separate table with experts available to discuss the Draft HCP and Draft EIS directly with those that had questions or required clarification. All materials from the open house public meetings were made available online.

Following the open house public meetings the public then had between 34 and 33 days to continue their review of the Draft EIS and Draft HCP and submit comments before the public review and comment period closed on November 18, 2019. The Services' decision to grant a 15-day extension to the Draft EIS and Draft HCP public review and comment period allowed additional time for public review of the materials, to raise any questions directly with the Services, and to submit comments. The extension meant that comments could still be submitted up to December 3, 2019.

EIS-1.4 Public Review and Comment Period for Final EIS and Final HCP

One commenter requested that, to ensure that a minimum amount of public involvement opportunities have been provided, that a formal public review and comment period on the Final EIS and Final HCP should be provided to help FWS draft the Final Section 10 Findings and Recommendations Memorandum.

Commenters

ORG-12

Response

When complete, the Final HCP and Final EIS including responses to substantive comments received on the Draft EIS and Draft HCP will be made available to the public. In accordance with the requirements of the CEQ implementing regulations (40 CFR § 1506.10(b)(2)) the Services will not make any decisions on the proposed federal actions for a minimum of 30 days following the release of the Final HCP and Final EIS. Although the Services do not solicit comments on the Final EIS or Final HCP and are not required to respond to any comments received during this period, the Services will consider them before making our final permit decisions. After conclusion of the 30 days, the Services will each independently prepare an ESA Section 10 findings document and an ESA Section 7 BiOp on the proposed ITP actions prior to issuing separate RODs.

Consistency with Laws and Policies

EIS-1.5 Definition and Consideration of Crooked River Act

Commenters expressed that the Draft EIS analysis failed to accurately define and take into consideration the legal requirements of the Crooked River Collaborative Water Security and Jobs Act of 2014 (Crooked River Act).

Commenters

TRIBE-1, ORG-15

Response

Water management in the Deschutes Basin. is performed by federal and non-federal entities. On the federal side, Reclamation approves water management contracts, performs dam safety inspections in the basin, stores and releases water at Bowman Dam on the Crooked River, and other related actions. Information on Reclamation underlying federal actions is presented in Draft EIS Chapter 2, *Proposed Action and Alternatives*. This information was included for the purpose of explaining how the federal and non-federal water management activities complement one another and to provide the public with the full description of water management activities in the Deschutes Basin.

The Draft EIS analysis is not inconsistent with the Crooked River Act. Rather, the conservation measures in the HCP are designed to be implemented together with the Crooked River Act. The Crooked River Act is a separate federal law that provides a framework for Reclamation to store, allocate, and release water from Bowman Dam on the Crooked River for downstream fish and wildlife purposes, among other things. Meanwhile, the conservation measures for the Crooked River subbasin provide for Ochoco ID to maintain a daily average flow of 50 cubic feet per second (cfs) below Bowman Dam outside the active irrigation season under certain conditions, among other measures.

As such, implementation of the Crooked River Act is a federal action, and subject to ESA Section 7 interagency consultation. Since many of these actions are closely related to and overlap with the actions in the HCP, they will be analyzed concurrently with the proposed issuance of the ITPs. The Services plan to issue BiOps that include both the HCP actions and Reclamation's actions prior to making final ITP decisions. The BiOps will be completed following publication of the Final EIS but prior to completion of the Services' respective RODs, and will be incorporated into those RODs.

Tribal Consultation

EIS-1.6 Tribal Consultation Compared to Guidance

One commenter expressed that tribal consultation for the Draft HCP had not been undertaken in accordance with the *U.S. Fish and Wildlife Service Tribal Consultation Handbook* (U.S. Fish and Wildlife Service 2018), updated October, 2018 and the National Oceanic and Atmospheric Administration's (NOAA's) *Procedures for Government-to-Government Consultation with Federally Recognized Indian Tribes and Alaska Native Corporations* (National Oceanic and Atmospheric Administration 2013) and was limited to staff-level consultation, which excluded formal government-to-government consultation at the leadership level and thereby omitted consultation with CTWS Warm Springs Reservation, whose reservation lies almost entirely with the Deschutes Basin.

Commenters

TRIBE-1

Response

Prior to the NEPA scoping process in September 2016, FWS initiated monthly two-hour staff level informal government-to-government consultation sessions with NMFS and staff from the CTWS. During this meeting, the Services requested tribal involvement, information, and review of materials relating to the HCP. Since that initial meeting, the Services and representatives of the CTWS have

held approximately 27 HCP-specific consultation sessions. In addition, CTWS staff have also participated in at least 12 water modeling-specific technical team meetings, six state, federal and tribal HCP coordination sessions, and three NEPA cooperators' meetings. Further to this and since the publication of the Draft HCP and Draft EIS, the Services and Reclamation have requested formal government-to-government consultation with the CTWS's Tribal Council. Representatives from the Services and Reclamation last met with the CTWS' Tribal Council on February 24, 2020. The Services respect, have implemented, and will continue to implement the necessary consultation processes with the CTWS.

EIS-1.7 Tribal Consultation Information Disclosure

One commenter expressed that the information disclosed in the Draft EIS regarding tribal consultation was insufficient.

Commenters

GP-176

Response

Section 1.7, *Tribal Consultation*, in the Final EIS has been updated to describe the consultation conducted with the CTWS.

NEPA Process

EIS-1.8 Public Comment Response

One commenter requested an elaboration on the NEPA requirement for responding to Draft EIS public comments.

Commenters

ORG-12

Response

As stated in Draft EIS Chapter 1, Section 1.8, *Draft EIS Comment Period*, the Draft EIS was released for public review in accordance with requirements set forth in NEPA (42 U.S.C. § 4321 et seq.) and its implementing regulations (40 CFR §§ 1500–1508) and comments received would be considered and addressed in the Final EIS. Responses to public comments provided in this appendix are consistent with the requirements defined in 40 CFR Section 1503.4.

EIS-1.9 Preferred and Environmentally Preferred Alternative

Commenters stated that FWS should have identified a preferred alternative and an environmentally preferred alternative in the Draft EIS, in accordance with the NEPA regulations 40 CFR Section 1502.14, and that FWS should now identify them and reopen the public review and comment period.

Commenters

ORG-3, GP-179

Response***Preferred Alternative***

There is no need to reopen the public review and comment period on the Draft EIS because the CEQ implementing NEPA regulations (40 CFR § 1502.14(e)) only require a Draft EIS to identify the agency's preferred alternative if a preferred alternative exists. If the responsible federal official in fact has no preferred alternative at the Draft EIS stage, a preferred alternative need not be identified there. Additionally, although the DOI implementing NEPA regulations (43 CFR § 46.425) encourage the identification of the preferred alternative in the Draft EIS, this is not specifically required.

A preferred alternative will be identified in the Final EIS in accordance with Section 1502.14(e) of the CEQ implementing Regulations and Section 46.425(a) of the DOI implementing NEPA regulations.

Environmentally Preferred Alternative

The concept of the “agency’s preferred alternative” is different from the “environmentally preferable alternative,” although in some cases an alternative may be both. There is no need to reopen the public review and comment period on the Draft EIS to identify the environmentally preferred alternative as both the CEQ implementing NEPA regulations (40 CFR § 1502.14(e)) and the DOI implementing NEPA regulations (43 CFR § 46.450) only require that the environmentally preferable alternative(s) be identified in the ROD. It is not necessary that the environmentally preferable alternative(s) are selected in the ROD.

EIS-1.10 Alternative Selection using ESA Definition of Jeopardy

One commenter stated that the proposed action (i.e., Alternative 2) will not provide for the survival and recovery of Oregon spotted frog and does not meet the jeopardy standard under the ESA.

Commenters

ORG-15, GP-137

Response

The Services released the Draft HCP and Draft EIS to solicit public review of and comment on both documents before making permit decisions on the ITP application.

Under ESA Section 7, each federal agency must ensure that any actions authorized, funded, or carried out are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat (16 U.S.C. § 536(a)(2)). Issuance of ITPs qualifies as an action authorized, funded or carried out by a federal agency. In accordance with this requirement a jeopardy analysis will be conducted independently by the Services after the Final EIS is published, but prior to deciding on whether to issue the ITPs.

When determining whether to issue the ITPs, the Services will evaluate information in the Final HCP, Final EIS, and supporting documentation to determine if the HCP meets issuance criteria under Section 10 of the ESA. These criteria include the requirement that the incidental taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The legislative history of the ESA establishes the intent of Congress that this issuance criteria be based on a finding of “not likely to jeopardize” under Section 7(a)(2). Before making a permit decision, the Services will each independently conduct a jeopardy analysis and prepare an ESA Section 10 findings document and ESA Section 7 BiOp. These documents will address whether the proposed action is likely to jeopardize the continued existence of listed species in the wild or to destroy or adversely modify designated critical habitat for listed species. If the BiOp makes a “no jeopardy” conclusion, the action can proceed as proposed consistent with the ITP. The BiOps will be completed following publication of the Final EIS but prior to completion of the RODs, and will be incorporated into those RODs.

EIS-1.11 Independent Verification

One commenter stated that FWS failed to independently verify the accuracy of any information submitted by the applicants to ensure the professional and scientific integrity of the Draft EIS discussions and analysis, as required by 40 CFR Section 1506.5 and therefore, FWS was in violation of its NEPA duties.

Commenters

ORG-12

Response

As allowed by both CEQ and DOI NEPA implementing regulations (40 CFR § 1506.5 and 43 CFR § 46.105) FWS hired an independent contractor to undertake the analysis and prepare the EIS that included the review and verification of information supplied by the applicants. Once the preliminary Draft EIS was completed, FWS and the cooperating agencies, as defined in Section 1.6, *NEPA Cooperating Agencies*, of the Draft EIS, had the opportunity to review and independently evaluate a preliminary Draft EIS prior to release to ensure its accuracy. Any comments raised by FWS and the cooperating agencies were addressed by the independent contractor, as required. The names of the persons responsible for the independent evaluation and development of the EIS are provided in Final EIS Chapter 6, *List of Preparers*. FWS has been and remains responsible for the preparation and adequacy of the environmental impact analyses and continues to independently evaluate all draft environmental documents after their completion.

EIS-1.12 Supplemental EIS or Revised Draft EIS

Commenters raised that without significant revisions to the Draft EIS, including revisions to the proposed action, a supplemental EIS or new revised Draft EIS would be required to be produced and circulated for comment.

Commenters

ORG-12

Response

As is the case in the preparation of almost all EISs, changes have been made between the Draft and Final EIS in response to comments received and more current or new data being available. However, FWS and the cooperating agencies consider the Draft EIS to have fulfilled and satisfied, to the fullest extent possible, the requirements established for final statements in Section 102(2)(C) of NEPA. Any amendments made between the Draft EIS and Final EIS neither constitute substantial changes nor represent significant new circumstances relevant to the proposed action, environmental concerns, or environmental impacts and therefore do not establish the need for a supplemental EIS to be produced and circulated. For a summary of changes made to the Draft EIS that are reflected in Final EIS, Section 1.9, *Changes to the EIS between Draft and Final*.

Agency Roles and Responsibility

EIS-1.13 NMFS NEPA Role and Responsibility

Commenters raised concern that NMFS had failed in its duty by not assuming joint lead status with FWS, in accordance with the CEQ NEPA implementing regulations per 40 CFR Section 1508.16, given that ITP requests have been made to both agencies, and therefore the NEPA process will not meet all NEPA requirements. Further, commenters stated that there was uncertainty regarding the role NMFS played in scoping, direct public involvement, and the Draft EIS, and will play in responding to comments and revising the Draft EIS.

Commenters

TRIBE-1, ORG-12

Response

Cooperating Agency Status

While the CEQ NEPA implementing regulations include provisions for a joint lead agency status to be formed between federal agencies such as the Services, the regulations do not mandate this (40 CFR § 1501.5(b)). The DOI NEPA implementing regulations, however, state a preference that “In most cases, the Responsible Official should designate one Federal agency as the lead with the remaining Federal, State, tribal governments, and local agencies assuming the role of cooperating agency. In this manner, the other Federal, State, and local agencies can work to ensure that the NEPA document will meet their needs for adoption and application to their related decision(s)” (refer to 43 CFR § 46.220(a)). This preference was followed for this EIS. This decision and the roles and responsibilities of the lead and cooperating agencies were documented in a series of letters issued by the Services in 2017 as required by 40 CFR Section 1501.5(c) of the CEQ NEPA implementing regulations. In line with the roles and responsibilities agreed upon, NMFS has been actively involved in interacting with FWS and the public and has been involved with scoping and the development of the Draft EIS prior to release.

Scoping, Engagement and Noticing

NMFS has taken an active role and collaborated for several years with the FWS, applicants, and multiple stakeholders in the region on the Draft HCP and Draft EIS. NMFS participated in the HCP Working Group beginning in 2008, which met up to four times a year throughout HCP preparation to

help guide each step of the process, from the initiation of baseline studies, to selection of covered species, to the development and review of conservation measures. In addition to this and when specific technical issues were identified NMFS participated in the Technical Working Groups to provide detailed input.

FWS initiated the public scoping process for this EIS on behalf of itself and NMFS with publication of the NOI to prepare an EIS in the *Federal Register* on July 21, 2017 (82 *Federal Register* 6625). The NOI announced FWS' intent to prepare an EIS and that NMFS would be a cooperating agency in the Draft EIS process.

In its cooperating agency role, NMFS was actively involved in the development of the scoping report including providing special expertise with respect to the ESA-listed species under its jurisdiction, reviewing and commenting on the scoping report prior to release. In addition to this, NMFS attended the public scoping meetings held on August 14, 2017, in Madras, Oregon and August 15, 2017, in Bend, Oregon.

Involvement in Development of Draft EIS and Response to Comments

Following the conclusion of scoping, NMFS continued its involvement with the development of the Draft EIS, which included the following.

- Attending cooperating agency meetings on November 1, 2018, and September 11, 2019
- Supporting FWS at a stakeholder update meeting on December 13, 2018
- Responding to questions related to the EIS process and content at a Draft EIS public outreach meetings in October 2019

Once the preliminary Draft EIS was prepared, NMFS reviewed and commented on the Draft EIS prior to its release. Additionally, NMFS included information about the Draft EIS in its *Federal Register* notice regarding the availability of the Deschutes Draft HCP for public comment. Refer to 84 *Federal Register* 53114 (October 4, 2019) and 84 *Federal Register* 61026 (November 12, 2019).

Following the release of the Draft EIS, the Services used the same regulatory docket to receive comments on the Draft EIS and Draft HCP to ensure that both agencies received all public comments on the documents. NMFS has assisted FWS in responding to the comments submitted during the Draft EIS public review and comment period, particularly those comments directed at NMFS. NMFS has also helped FWS produce the Final EIS based on the comments received.

Adoption of the Final EIS

CEQ regulations state that an agency may adopt appropriate environmental documents prepared by another agency with the goal of eliminating excessive paperwork (50 CFR § 1500.3). CEQ regulations identify the standards and process an agency must follow to adopt an EIS prepared by another federal agency (50 CFR § 1506.3). CEQ provided further guidance on adoption of another agency's NEPA analyses (48 Fed. Reg. 34,263 (July 28, 1983), Question 30). The guidance explains that a cooperating agency with jurisdiction by law (e.g., an agency with independent legal responsibilities with respect to the proposal) has an independent legal obligation to comply with NEPA. If the cooperating agency concludes that its NEPA requirements and its comments and suggestions have been satisfied, that agency may adopt a lead agency's EIS without recirculating it. However, if the cooperating agency determines that the EIS is wrong or inadequate, it must prepare a supplement to the EIS, replacing or adding any needed information, and must circulate the

supplement as a draft for public and agency review and comment. Neither the CEQ regulations nor guidance require an agency to include an explanation in an EIS about how another agency may adopt that document.

NMFS will follow the process described in the CEQ NEPA implementing regulations and NOAA NEPA policies and procedures (i.e., NOAA Administrative Order 216-6A and its companion manual *Policy and Procedures for Compliance with the National Environmental Policy Act and Related Authorities*) in determining whether to adopt and use the Final EIS in its ITP application determination. In the event that NMFS is satisfied that its comments and suggestions have been addressed and determines the Final EIS is sufficient for adoption, NMFS will make an independent decision as to whether to issue an ITP to the applicants, relying on the statutory and regulatory criteria for ITPs set forth in ESA and its implementing regulations. To support our final permit decisions, the Services will each independently prepare an ESA Section 10 findings document and an ESA Section 7 BiOp on the proposed ITP actions prior to issuing separate RODs.

EIS-1.14 NEPA Cooperating Agencies

One commenter requested removal of the CTWS from Chapter 1, Section 1.6, NEPA Cooperating Agencies.

Commenters

TRIBE-1

Response

FWS recognizes that the CTWS are a sovereign, federally recognized, Indian Tribe. Section 1.7, *Tribal Consultation*, in the Final EIS, has been updated to describe FWS' government-to-government consultation with the CTWS. In addition to government-to-government consultation, FWS engaged the CTWS in the communication and document review provided to other cooperating agencies (refer to response to comment EIS-1.11, *Independent Verification*). The Final EIS reflects this clarification

2 Out of Scope

General Comments

EIS-2.1 Reference to Other Commenters

Commenters referred responders to other commenters' comments.

Commenters

ORG-15

Response

For commenters incorporating other commenter's comments by reference, please refer to Tables 2 through 9 in the *Indices of Commenters* section for the letter number assigned to each comment letter and refer to those comments which include the relevant comment letter under "Commenters."

EIS-2.2 General Suggestions

Commenters made general suggestions to minimize effects and suggested federal and state commitment to implement conservation measures.

Commenters

STATE-4, LOCAL-3, FLP-69

Response

Commenters' suggestions are appreciated but did not provide sufficient detail to consider for incorporation.

EIS-2.3 Background

Commenters provided background and supporting information.

Commenters

TRIBE-1, ORG-24, ORG-17, ORG-22, GP-27, GP-35, LOCAL-3

Response

Background information was considered when responding to substantive comments but did not require a response itself. Substantive comments are responded to in this document.

EIS-2.4 Attachments

Commenters provided attachments to support their comments.

Commenters

ORG-19, ORG-22, FED-2

Response

FWS identified, considered, and responded to information contained in attachments to a comment letter if the attachment commented on substantive issues related to the environmental analysis contained in the Draft EIS. However, as these attachments did not meet this criterion, the content of the attachments were not grouped, summarized, or responded to and instead were reviewed and circulated to authors for reference while responding to comments.

EIS-2.5 Current Conditions

Commenters provided narrative about the current conditions of the study area.

Commenters

ORG-1, GP-5, GP-6, FLP-22, FLP-63, FLP-54

Response

When applicable, a commenter's assessment of the current conditions was considered when responding to substantive comments.

EIS-2.6 Duplicate Comments

Commenters provided duplicate comments.

Commenters

FLP-25, FLP-27

Response

Comments are responded to once. Refer to responses to Commenter FLP-23.

EIS-2.7 Economics

Commenters expressed concern about the economic implications of the proposed action.

Commenters

FLP-69, GP-150

Response

Substantive comments on economic effects are addressed under Section 19, *Socioeconomics and Environmental Justice*.

EIS-2.8 Disagreement with a Perceived Preference for Irrigators

Commenters disagreed with what they perceived as a preference for irrigators in the Draft HCP and Draft EIS.

Commenters

GP-42, ORG-23, FLP-17, FLP-18, GP-111

Response

Refer to response to comment HCP-7.23, *HCP Criteria and Legal Standards for ITP Issuance*, regarding the legal adequacy of the HCP and requests by commenters for additional or different analyses and HCP-17.1, *Draft HCP Practicability Analysis, Generally*, regarding commenter's concerns about the HCP satisfying the "maximum extent practicable" standard. If approved, the Final HCP will minimize and mitigate impacts of take from covered activities to the maximum extent practicable.

Refer to response to comment EIS-5.3, *Range of Alternatives*, regarding FWS's evaluation of a reasonable range of alternatives.

EIS-2.9 General Statements

Commenters made various general statements about the HCP (proposed action), responsibilities of FWS, the study area and rivers, quality of life, and general opinions on the state of the Deschutes River.

Commenters

ORG-12, ORG-15, FED-2, ORG-4, ORG-5, ORG-7, ORG-14, ORG-17, ORG-19, ORG-20, ORG-21, GP-11, GP-12, GP-13, GP-15, GP-17, GP-19, GP-22, GP-24, GP-25, GP-29, GP-34, GP-37, GP-39, GP-40, GP-43, GP-49, GP-50, GP-51, GP-52, GP-53, GP-54, GP-55, GP-56, GP-57, GP-58, GP-59, GP-60, GP-61, GP-62, GP-63, GP-64, GP-65, GP-66, GP-67, GP-68, GP-69, GP-70, GP-71, GP-72, GP-74, GP-76, GP-77, GP-79, GP-80, GP-81, GP-84, GP-86, GP-88, GP-89, GP-91, GP-98, GP-102, GP-94, GP-103, GP-108, GP-110, GP-124, GP-126, GP-128, GP-131, GP-133, GP-137, GP-138, GP-140, GP-141, GP-143, GP-144, GP-146, GP-152, GP-158, GP-171, GP-182, FLP-2, FLP-4, FLP-7, FLP-8, FLP-15, FLP-16, FLP-17, FLP-30, FLP-22, FLP-23, FLP-25, FLP-28, FLP-31, FLP-32, FLP-36, FLP-37, FLP-39, FLP-40, FLP-42, FLP-47, FLP-50, FLP-51, FLP-52, FLP-58, FLP-59, FLP-60, FLP-67, FLP-68, FLP-69, FLP-70, GP-122, GP-139, GP-118, FLP-19, GP-87, FLP-18, GP-111, GP-92, FLP-20

Response

The CEQ recommends that agencies respond to all “substantive comments raising significant issues” on the Draft EIS. Refer to CEQ’s *Forty Most Asked Questions Concerning CEQ’s NEPA Regulations*, Question 14d (March 16, 1981); see also 40 CFR 1503.4(b). Only substantive comments are considered and responded to in this EIS and there are no responses provided to these non-substantive statements and opinions.

EIS-2.10 Hobby Farms

Commenters disagreed with the allocation of water to hobby farms and felt that hobby farms waste water.

Commenters

GP-101, GP-149, FLP-54

Response

Changes to existing water rights and water allocations are beyond the scope of this EIS.

EIS-2.11 Agriculture

Commenters provided their assessment of viable crops and agricultural production in the Deschutes Basin.

Commenters

LOCAL-3, ORG-1

Response

The crop makeup of the Deschutes Basin is outside the scope of NEPA and this EIS.

3 EIS Adequacy

Application of Comments

EIS-3.1 Comments on the HCP

One commenter requested that comments on the HCP be carried through to the Draft EIS.

Commenters

ORG-12

Response

For responses to comments on the HCP, please refer to the *Response to Comments on the HCP* section. Revisions and updates to the Draft HCP are reflected, as appropriate, in the Final EIS.

Baseline

EIS-3.2 Baselines

Commenters expressed concern that the baseline in the HCP used in development of conservation measures was inconsistent with the no-action alternative used as the basis for comparison in the EIS to characterize and evaluate environmental consequences.

Commenters

ORG-12, ORG-15

Response

Comparison should not be drawn between the HCP existing conditions and the no-action alternative as the no-action alternative is a term only applicable to the Draft EIS. The differences in baseline between the HCP and the EIS are a product of the differences between Endangered Species Act (ESA) and NEPA guidance on baseline. The HCP uses the environmental baseline as a means for determining impacts while NEPA uses the future conditions under the no-action alternative as a basis of comparison.

As defined in ESA Section 7 regulations (50 CFR § 402.02): “The environmental baseline includes the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.”

The environmental baseline used for the HCP is not the same thing as the “no-action alternative” under NEPA. The current state of the resources affected serves as the baseline for predicting

changes to the human environment that could occur if any of the alternatives under consideration, including the no-action alternative, are implemented.

The no-action alternative, which is used as the basis for comparison under NEPA, describes the specific actions that are assumed to occur in the absence of the proposed action. The no-action alternative is defined in EIS Chapter 2, Section 2.1.1, *Alternative 1: No Action*, as required by the CEQ regulations (40 CFR § 1502.14). The no-action alternative defines the future circumstances that are predicted to continue or occur without the proposed action and assumes the continuation of the existing management plan or program, such as the *Deschutes Project BiOp*. The no-action alternative is, therefore, the condition against which the proposed action and alternatives are judged, while the baseline in the HCP considers the historical and current conditions of covered lands, waters, species, and species habitat in establishing a baseline against which the effects of the proposed action are compared.

As described in the *Fish and Wildlife Service NEPA Reference Handbook*, the Environmental Consequences chapter (EIS Chapter 3, *Affected Environment and Environmental Consequences*) addresses the net difference between the environmental impact of the alternatives, including the proposed action, and the no-action alternative (U.S. Fish and Wildlife Service 2003).

Comparison of Alternatives

EIS-3.3 Comparison of Alternative 3 to the Proposed Action

One commenter stated that the effects analysis did not provide a comprehensive comparison of Alternative 3 to the proposed action.

Commenters

ORG-15

Response

The Draft EIS' *Executive Summary*, Table ES-1, *Summary of Potential Impacts*, provided a side-by-side summary of the conclusion for the no-action alternative and Alternatives 2, 3, and 4 for each resource topic and effect.

Refer to response to comment EIS-3.2, *Baselines*, for discussion of NEPA guidance for assessing environmental impacts and comparison of each alternative to the no-action alternative to determine effects.

Compliance with Laws and Policies

EIS-3.4 Regulatory Environment

One commenter stated that the EIS did not include or incorporate the regulatory environment into the effects analysis.

Commenters

ORG-12

Response

Draft EIS Appendix 3.1-A, *Regulatory Environment*, presented the regulations that apply to the proposed action and alternatives, by resource area. Regulations were considered and incorporated into the effects analysis for each resource area as appropriate. Implementation of the selected alternative will be consistent with all applicable laws, contractual obligations, and agreements.

EIS-3.5 Inclusion of Various Plans, Acts, Strategies, and Oregon State Statutes

Commenters asserted that the EIS should have specifically included a description of how the alternatives will meet the requirements of the *Middle Columbia River Steelhead Recovery Plan*; National Marine Fisheries Service *Ecosystem-based Fishery Management Plan for the West Coast Region*; Fish and Wildlife Coordination Act; U.S. Fish and Wildlife Service *Climate Change Strategy and Strategic Plan*; U.S. Department of Interior Order 3289: *Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources*; Oregon Department of Fish and Wildlife Conservation Strategy; National Fish, Wildlife, and Plants Conservation Strategy; Clean Water Act; Wild and Scenic Rivers Act; Crooked River Act; Treaty with the Tribes of Middle Oregon (1855) (1855 Treaty); Integrated Resources, Management Plan (IRMP); Tribal Water Code (Ordinance 80); Wild and Scenic River ordinance (Warm Springs Tribal Code Chapter 401); and Oregon State Statutes including Oregon's Fish Passage Statutes: ORS 509.585 et al., Oregon's Screening Statutes: ORS 498.306, Oregon's Instream Water Right Act: ORS 537.332–537.360, Oregon Additional Public Interest Standards for New Appropriations (Sensitive Stock Rules): OAR 690-33, and Oregon Administrative Rules on Waste and Efficiency: OAR 690-400-010(16); OAR 690-410-060.

Commenters

TRIBE-1, ORG-12, ORG-15

Response

The following Acts provided by the commenters are already captured in Draft EIS Appendix 3.1-A, *Regulatory Environment* and the no-action alternative.

- Fish and Wildlife Coordination Act
- Clean Water Act
- Wild and Scenic Rivers Act
- Crooked River Act
- 1855 Treaty

The remaining Acts/Plan/Strategies/Oregon State Statutes were reviewed and added to the Final EIS Appendix 3.1-A, *Regulatory Environment* as appropriate. Their addition required no changes to the no-action alternative description or the analysis of the effects of the action alternatives in the Final EIS.

Effect Thresholds

EIS-3.6 Reviewable Record

One commenter stated that FWS failed to provide and should provide a reviewable record of its threshold determination of significance.

Commenters

ORG-12

Response

For purposes of NEPA compliance, preparation of an EIS is required for actions that are expected or have the potential to significantly impact the human environment (per 40 CFR §§ 1500–1508). The FWS performed internal NEPA scoping for the Deschutes River Basin HCP–ITP action in close coordination with the NMFS as a cooperating agency. During that internal scoping process, the Services staff reviewed the proposed ITP action and the purpose and need for taking the action, and identified the environmental issues requiring detailed analysis as well as identified connected, similar, and cumulative actions. The internal scoping analysis concluded that the proposed ITP action entails the following

- Involves instream flow and habitat restoration decisions that significantly affect biodiversity and ecosystem functions across a large geographic area.
- Involves management decisions that are significantly controversial.
- Has highly uncertain effects or involve unique or unknown risks to biological, physical or other factors.
- Establishes precedents for future actions with significant effects.
- Will contribute to other individually insignificant but cumulatively significant impacts.
- Will have positive effects on wetlands, rivers, and ecologically critical areas but may have adverse effects on historical resources (i.e., canals) and farmlands.
- May affect some areas covered by the National Historic Preservation Act (NHPA).
- Will adversely affect endangered or threatened species, their critical habitat, or other non-target species.
- Will have social or economic impacts interrelated with significant natural or physical environmental effects.

As described further in the FWS' *Notice of Intent to Prepare a Draft Environmental Impact Statement for the Proposed Deschutes River Basin Habitat Conservation Plan in Oregon* (published July 24, 2017, 82 *Federal Register* 34326), the Services determined that the proposed Deschutes River Basin HCP–ITP action was of sufficient size and complexity to warrant an EIS; is similar to previous HCP's issued in the Pacific Northwest that likewise required the preparation of an EIS; and may have significant effects on the human environment. On that basis and in accordance with regulations at

40 CFR Sections 1501.4, 1507.3, and 1508.27, the FWS determined that preparation of an EIS was warranted.

Federal agencies can initially prepare an environmental assessment (EA) to analyze and document the potential for one or more significant impacts to occur from a proposed federal action. Agencies, however, need not initially prepare an EA for an action, but can proceed directly to the preparation of a Draft EIS. For example, the U.S. Department of the Interior's NEPA regulations instruct that an environmental assessment need not be prepared when "the bureau has already decided to prepare an environmental impact statement" (Refer to 43 CFR Section 46.300(a)(3)). Consistent with that exemption, FWS proceeded directly to the preparation of an EIS for the pending permit request.

EIS-3.7 Effect Determinations

One commenter requested that the EIS be reviewed to ensure consistent application of the threshold determinations in the effect conclusions.

Commenters

ORG-12

Response

The EIS has been reviewed and adjusted for consistency. Effect conclusion statements were missing from Impact WR-1: Change Reservoir Storage, and Impact WR-2: Change Water Supply for Irrigation Districts and Other Surface Water Users, as changes in water supply are not considered environmental effects in and of themselves; therefore, no thresholds are defined. Results from this analysis were used to assess effects on other resources such as agriculture and socioeconomics. The Final EIS has been revised appropriately.

EIS-3.8 Thresholds for Adverse Effect

Commenters felt that the parameters in the Draft EIS provided for agriculture are more protective than the parameters for species and habitat. Similarly, commenters felt that the thresholds were incomplete and set too high for an adverse effect finding for covered fish species.

Commenters

TRIBE-1, ORG-15

Response

The analyses in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*, provides effects thresholds that disclose some of the factors used to reach effects conclusions. An explanation of these thresholds is provided in Chapter 3, Section 3.1.2, *Effect Determinations*. Although not required by NEPA or its regulations, identifying effects thresholds can be useful in determining if potential effects rise to an adverse level. In all cases potential effects are evaluated considering the context and intensity of effects. While the effects thresholds were used to help guide the fish (and other) analyses, the analyses used to determine if an adverse effect could occur are fully disclosed for each effect identified.

Please note that the intent of the Draft EIS is to disclose a broad range of effects on the human environment, not just the biological effects for covered species, which are the focus of the Draft HCP. The Draft EIS discloses the potential effects on agricultural and other resources from implementing the Draft HCP to ensure the Services consider all of the potential consequences of issuing ITPs. In the case of the effect of the alternatives on agricultural resources, the Draft EIS concludes that the effect of converting agricultural land would not be adverse because Oregon law protects conversion of agricultural land (Section 3.5, *Land Use and Agricultural Resources*). The potential economic effects of fallowing agricultural land are addressed in Section 3.9, *Socioeconomics and Environmental Justice*. Similarly, the effects of implementing the Draft HCP on covered species is addressed in Section 3.4, *Biological Resources*. Many of these effects were determined to be not adverse or beneficial because the Draft HCP conservation strategy is projected to minimize and mitigate for incidental take of covered activities on covered species. The effects thresholds presented in this section address typical issues evaluated for effects on fish and aquatic resources.

Evaluate Exceptions to and Uncertainty of HCP Measures

EIS-3.9 Exceptions to Flow Measures in the Upper Deschutes River

One commenter expressed that the Draft EIS lacks an analysis of exceptions to flow measures in the Upper Deschutes River for Alternatives 2, 3, and 4.

Commenters

ORG-15

Response

The Draft EIS biological analyses did take into consideration the exceptions identified in Conservation Measure WR-1 and other conservation measures even if it was not possible to capture them in the RiverWare modeling results. In the case of the Oregon spotted frog analyses, Conservation Measure WR-1 by design includes a robust adaptive management component that describes the collaborative development of a variable flow tool as well as ongoing coordination between the applicants and FWS. For example, contacting FWS to discuss operational options that would minimize adverse effects on Oregon spotted frog would be triggered by certain events, such as “when North Unit Irrigation District anticipates the need to exceed 1,200 cubic feet per second (cfs) at WICO [Deschutes River below Wickiup Reservoir gauge] in year 13 and later...” as described under Conservation Measure WR-1. It would not be possible to assess the impacts of all scenarios that could occur in the future, or accurately model their incidence using the RiverWare model, but the conservation measure builds in this adaptive management approach to ensure that the applicants and FWS will work to find solutions to minimize direct and indirect adverse effects on the Oregon spotted frog based on the conditions as understood by the parties at the time. For a summary of changes to the Draft EIS that are reflected in the Final EIS, Section 1.9, *Changes to the EIS between Draft and Final*. Changes to the proposed action are detailed in Final EIS Chapter 2, Section 2.1.2.4, *Conservation Strategy*.

Mitigation

EIS-3.10 Mitigation Measures

Commenters stated that inclusion of specific and reasonable mitigation measures and an analysis of their effects on the proposed action and alternatives is required per NEPA and CEQ Guidance.

Commenters

TRIBE-1, ORG-12, ORG-14

Response

When an agency prepares an EIS, it must include mitigation measures (including measures not already included in the proposed action or alternatives) among the alternatives compared in the EIS (40 CFR § 1502.14). The proposed action and action alternatives were designed to incorporate conservation measures to meet the purpose and need for the action (refer to Draft EIS Chapter 1, *Purpose and Need*) while avoiding or minimizing adverse impacts on other aspects of the environment, where feasible. In some cases, adverse impacts could not be avoided or minimized and are therefore determined to be unavoidable. In the Draft EIS, FWS discusses a host of additional measures that are intended to mitigate adverse environmental consequences that are analyzed as elements of Alternatives 3 and 4. In Alternative 3, these include increasing fall and winter flows in the Deschutes River below Wickiup Dam sooner than under the proposed action, targeting higher minimum flows during above-normal and wet years, adding an Upper Deschutes River Conservation Fund, providing improved certainty of flows at North Unit ID's Crooked River pumping plant, and protecting uncontracted fish and wildlife storage releases on the Crooked River instream to Lake Billy Chinook. Alternative 4 further analyses additional measures including further accelerating the timing of fall and winter flow increases on the Deschutes River, and increasing releases of uncontracted storage on the Crooked River.

As required by NEPA, the Draft EIS analyzes the potential direct and indirect impacts of each alternative on each resource, including these additional measures not included in the proposed action. As described in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the proposed action and action alternatives all require the implementation of conservation strategies that would ensure any adverse effects from the potential take of the covered species is offset consistent with ESA Section 10(a)(2)(B) issuance criteria. Therefore, the potential unavoidable adverse effects would be limited. The FWS determined that the suite of mitigation measures analyzed as elements of the alternatives are appropriate and sufficient to inform decision makers about reasonable measures that could improve the proposed action and to advance NEPA's purpose of ensuring informed and transparent environmental decision making.

Monitoring and Adaptive Management

EIS-3.11 Adaptive Management

One commenter expressed that the adaptive management plan as described in the Draft EIS does not provide sufficient detail regarding the incorporation of adaptive management into the effects analysis and is too general.

Commenters

ORG-12

Response

The analyses of effects of the proposed action and action alternatives described in the Draft EIS are primarily based on the results of the RiverWare modeling, which predicts hydrologic conditions over the permit term. The model is a representation and simplification of the water management paradigm and the natural system and, therefore, does not capture every aspect of the natural system. Additionally, the model follows a set of assumptions and logic in a manner that would likely differ from how decision-makers may (and currently do) make decisions in real time. However, the model is informed by existing data sets, water management regimes, and knowledge of the natural system.

As described in Draft EIS Section 3.4, *Biological Resources*, the proposed action includes effectiveness monitoring and adaptive management plans which contain provisions to monitor Oregon spotted frog and its habitat in the study area during the permit term. If conditions change (e.g., weather affects the timing of breeding), there are operational management actions prescribed to modify flow or reservoir storage and water elevation in response to those changes. A quantitative analysis of the effects of implementing these measures is not feasible for the EIS as they are based on changed conditions that cannot be predicted with any certainty at this time.

The monitoring, reporting, and adaptive management as described in the HCP will provide a mechanism for identifying uncertainties, implementing effectiveness monitoring to inform future water management within the parameters of the volumes provided. Additionally, during project implementation, additional information will be available as to the effects of the project, and adaptive management can be used to adjust the project to address these effects. Adaptive management can result in changes in operational criteria based on new information to avoid adverse effects.

Please refer to Final HCP, Chapter 7, *Monitoring, Reporting, and Adaptive Management*, for a detailed description of the multiple provisions the HCP includes for monitoring, reporting, and adaptive management of the conservation measures. Additional monitoring, reporting, and adaptive management elements were added since the draft publication. Refer to response to comment HCP-10.1, *HCP Monitoring and Adaptive Management Provisions*, for a detailed discussion of the revisions to the compliance and effectiveness monitoring and adaptive management provisions in Final HCP Chapter 7, *Monitoring, Reporting, and Adaptive Management*.

Additional Actions**EIS-3.12 Permanent Protection of Flows**

One commenter expressed that the conservation measures should include permanent protection of flows proposed and discuss this in the effects analysis.

Commenters

ORG-15

Response

Refer to response to comment HCP-4.8, *Commitments to Acquire Instream Water Rights*, regarding the applicant's legal obligations and authorities regarding water rights.

Refer to response to comment HCP-8.8, *Permanent Instream Protection of Increased Flows in the Upper Deschutes River*, regarding permanent protection of flows in the Upper Deschutes River; HCP-8.27, *Conservation Measures to Improve Flows and Temperatures in Whychus Creek*, HCP-8.40, *Conservation Benefits of Increased Flows in Proposed Conservation Measure WC-1*, HCP-8.47, *Conservation Benefits of Proposed Conservation Measure WC-4*, and HCP-7.22, *Timing to Implement Conservation Measures Requiring Third-Party Cooperation* regarding permanent protection of flows in Whychus Creek; and HCP-8.50, *Instream Protection of Increased Flows in Lower Crooked River*, regarding permanent protection of flows in the Lower Crooked River. Revisions to conservation measures for Whychus Creek are reflected in the Final EIS effects analysis.

Take**EIS-3.13 No-Action Alternative Quantification of Take**

Commenters stated that the Draft EIS analysis of the no-action alternative does not articulate the current level of take and/or whether that level would continue, increase, or decrease under the no-action alternative and expressed a request for disclosure of the level of take in the Draft EIS.

Commenters

ORG-15, ORG-12

Response

The EIS characterizes the current habitat conditions for covered species in Chapter 3, Section 3.4, *Biological Resources*. This section also provides an analysis of effect of the no-action alternative on biological resources at a level of detail that is adequate to estimate and disclose the potential for adverse biological effects to occur. The EIS analyses properly disclose the potential adverse effects to covered species using the best available information developed for the current BiOps (U.S. Fish and Wildlife Service 2017, 2019; National Marine Fisheries Service 2005), the proposed Deschutes Basin HCP, and other available sources. For NEPA biological resources analyses, an estimate of potential take can be a portion of the analyses if a take estimate is available or had been developed during an ESA compliance process; however, it is not required for NEPA and was not available for this analysis. In the current BiOps (U.S. Fish and Wildlife Service 2017, 2019; National Marine Fisheries Service 2005) and the Deschutes Basin HCP, the current covered species habitat conditions were used as a surrogate for take quantification because quantifying take of individuals in the permit area for covered species was not feasible. Most of the effects for vegetation, wildlife, Oregon spotted frog, fish, and mollusks in the Draft EIS noted the potential for some beneficial effects under the no-action alternative, but overall effects could be adverse because of ongoing habitat loss and the potential effects of climate change on the river system. Thus, even without a quantified estimate of take for species, the analysis fairly discloses the potential for ongoing biological effects if the no-action alternative were to occur.

Restoration of Fish Species

EIS-3.14 Comparison of Past Conditions

One commenter requested a comparison of past habitat loss and conditions to determine the amount of flow and habitat required to restore covered fish species.

Commenters

ORG-12

Response

The no-action alternative considers the existing condition, which is a result of the ongoing water management activities. The action alternatives were evaluated how each would perform compared to the existing condition. This EIS is a tool for making a decision on a pending permit request. An EIS outlines the status of the environment in the affected area and identifies the potential effects on that environment that would result from either implementing the proposed action or one of the alternatives.

Further, in the Services' BiOps that will analyze the HCP, the condition of the environmental baseline will be described, which includes the current degraded condition resulting from the historical water management practices.

HCPs consider the environmental baseline upon which the conservation strategy will be implemented. The Services will each make separate decisions on whether to issue ITPs relying on the criteria set forth in the ESA and its implementing regulations, including whether the conservation strategies will minimize and mitigate the effects of the incidental taking of the covered species to the maximum extent practicable, and whether the implementation of the HCP will appreciably reduce the likelihood of survival and recovery of the species in the wild.

Flows

EIS-3.15 Summer Flow Cap

Commenters raised concerns that without a summer flow cap the effects analysis is flawed as a decrease in summer flow is not guaranteed and that earlier breeding season ramp up, later summer ramp down and year-round flows needed for revegetation of the Upper Deschutes River channel should be included.

Commenters

ORG-15

Response

Conservation measure WR-1 in the Final HCP and Final EIS has been revised to include upper limits on allowable summer flows in the Upper Deschutes, beginning no later than Year 8 of HCP implementation (calendar year 2028). Final EIS Chapter 2, *Proposed Action and Alternatives*, has

been updated to reflect this change to Conservation Measure WR-1 for the proposed action. The Final EIS analysis of the proposed action reflects this change.

Ramp up and ramp down rates for Oregon spotted frog on the Deschutes River in the proposed action and action alternatives were determined by considering Oregon spotted frog life stage and irrigation season needs. Similarly, seasonal flows proposed for the proposed action and action alternative were identified to help reduce seasonal flow fluctuations, provide habitat for Oregon spotted frog and other covered species while also meeting irrigation needs. While other possible scenarios could fall within the range of alternatives addressed in the EIS, year-round flow requirements were determined to not meet all of these needs adequately.

Temporal Scale

EIS-3.16 Clarification of Term

One commenter requested clarification on the timeframe of the term “sooner.”

Commenters

ORG-12

Response

It is unclear exactly which instances of “sooner” the commenter is referring to. This response assumes it is in regard to timing of implementation of increased fall/winter flows below Wickiup Dam. Draft EIS Chapter 2, *Proposed Action and Alternatives*, describes the implementation schedule under each alternative. In the resource analyses in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*, and Chapter 4, *Cumulative Impacts*, the word “sooner” is used in reference to the earlier implementation of increased flows under Alternatives 3 and 4 compared to the proposed action. Draft EIS Chapter 3, Section 3.1, *Introduction*, Table 3.1-1 presents a comparison of implementation schedules under the alternatives. The resource analyses in Chapter 3, *Affected Environment and Environmental Consequences*, refer to this table when providing a qualitative comparison across alternatives.

EIS-3.17 Short- and Long-Term Effects

One commenter requested that FWS identify the short- and long-term effects of the alternatives with specific focus on the effect on the Oregon spotted frog during the time when the required minimum flow below Wickiup Dam in the winter increases from 100 cubic feet per second (cfs) in year 1 to 400 cfs in year 21.

Commenters

ORG-13

Response

The Draft EIS considered the short- and long-term effects of the proposed action and action alternatives on the human environment. Final EIS Chapter 3, Section 3.4 *Biological Resources*,

provides a more detailed analysis of the interim effects on Oregon spotted frog during the early phases of implementation.

Proposed Corrections to the EIS

EIS-3.18 Use of Bolded and Italicized Text

One commenter asked why bolded and italicized text was used in the document for certain terms.

Commenters

ORG-12

Response

As stated in Footnote 1, Section 1.1, *Introduction*, terms in bold italics are defined more fully in Appendix 1-A, *Glossary*.

EIS-3.19 Glossary Placement

One commenter disagreed with the placement of the glossary in an appendix and requested it be included in the main body of the EIS.

Commenters

ORG-12

Response

The glossary is provided in an easily accessible appendix for readers' use.

EIS-3.20 Table of Contents

One commenter requested that the EIS provide a "road map" of the document chapters and include a table of contents at the beginning of each chapter.

Commenters

ORG-12

Response

As discussed in responses to commentEIS-3.21, *Detail Provided in the EIS*, the Table of Contents at the beginning of the EIS provides the reader with a detailed breakdown of chapters, sections, and subsections for reference when navigating the document.

EIS-3.21 Detail Provided in the EIS

One commenter requested more detail and elaboration of content in the EIS.

Commenters

ORG-12

Response

The Draft EIS is written and compiled in a manner that would facilitate understanding and ease of navigation while meeting the informational requirements of the CEQ, guidance in the Services' HCP Handbook, and other guidance.

To facilitate understanding, information in the Draft EIS and Draft HCP was presented in plain language and in a streamlined and easily navigable format. Emphasis was also placed on summarizing relevant information that was useful to the public, agencies, and decision-makers. The documents also retain focus on the proposed action, no-action alternative and action alternatives, environmental effects and impacts, and the proposed conservation measures, while also utilizing technical appendices to avoid including highly technical analysis in the main body of the Draft HCP and Draft EIS. Both the Draft HCP and Draft EIS were accompanied by an executive summary that summarized the Draft EIS and Draft HCP to enable a reader to rapidly become acquainted with a large body of material without having to read the documents in their entirety.

This approach balanced the need for technical information and readability of the documents and is fully consistent with the procedural and informational requirements of the ESA regulations and guidance in the Services' HCP Handbook.

EIS-3.22 Editorial, Grammatical, and Formatting Corrections

Commenters submitted editorial and grammatical corrections for FWS consideration as well as asserting that the EIS fails to properly incorporate by reference, formatting issues, lack of ease in cross referencing, incomplete or missing citations, incorrect subsection naming and numbering, inconsistent metrics, and other various document clarity issues.

Commenters

ORG-12, ORG-14, FED-2, STATE-1

Response

Comments have been reviewed and updates are reflected as appropriate in the Final EIS.

Climate Change**EIS-3.23 Effects of Climate Change**

Commenters requested a more extensive description of the effects of climate change on the study area resources as well as an analysis of climate change effects for each alternative and conservation measure.

Commenters

TRIBE-1, ORG-12

Response

The potential effects of climate change on study area resources are addressed qualitatively over the analysis period under the no-action alternative. Effects are presented for the no-action alternative for each resource in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*. These effects would be the same under all alternatives. The potential for the proposed action and action alternatives to result in cumulative effects when combined with the effects of climate change and other cumulative actions is described in Draft EIS Chapter 4, *Cumulative Impacts*.

Please refer to response to comment EIS-3.2, *Baselines*, for discussion of NEPA guidance for assessing environmental impacts and baselines used to determine effects.

EIS-3.24 Sources

One commenter provided additional sources of climate change information for incorporation into the climate change analysis.

Commenters

ORG-12

Response

To quantify the potential effects from climate change, future climate-adjusted unregulated flows are needed for input in to the RiverWare model. Models that have been historically used to develop the unregulated flows, like a variable infiltration capacity model, do not capture the physical processes that occur in the Deschutes Basin because they are not designed to represent groundwater surface water interaction as it occurs in the Deschutes River. A promising model is under development by the U.S. Geological Survey called GSFlow, which will be able to generate future climate-adjusted unregulated flows in the Deschutes River, but it was not available in time for use in this study.

Final EIS Section 3.2, *Water Resources*, has been updated throughout to reflect updated climate change sources and information where appropriate.

EIS-3.25 Conservation Measures

One commenter stated that FWS failed to assess climate change under each alternative.

Commenters

ORG-15

Response

Climate change is a global phenomenon created by a myriad of greenhouse gas emissions. At present it is technically not feasible to attribute the extent to which a discrete action such as the proposed permit actions and alternatives are likely to exacerbate the effects of climate change on a specific geographic area. Draft EIS Chapter 4, *Cumulative Impacts*, considers how the effects of the proposed action and alternatives described in Chapter 3, *Affected Environment and Environmental Consequences*, when considered in the context of climate change and other cumulative actions, could

have cumulative effects. Refer to response to comment EIS-3.23, *Effects of Climate Change*, for additional discussion of how climate change was incorporated into the analysis.

Refer to response to comment HCP-10.2, *Adaptive Management Procedures to Address Climate Change*, for discussion on adaptive management of climate change effects. Refer to response to comment HCP-14.1, *Specificity of Changed and Unforeseen Circumstances Provisions*, HCP-14.2, *Removal of Unforeseen Circumstances Provisions*, and HCP-14.3, *Changed Circumstances vs. Adaptive Management to Address Climate Change*, regarding changed circumstances and response actions included in the HCP as well as the consideration of the effects of changing climatic conditions.

Analysis of Cumulative Effects

EIS-3.26 Effects of Projects

Commenters stated that the Draft EIS provided no specific discussion or analysis of the effects of past, present, and reasonably foreseeable future projects in the area potentially affected by the proposed action and alternatives (i.e., the Deschutes River Basin). Commenters requested more specificity about the projects included in the cumulative effects analysis.

Commenters

ORG-12, ORG-14

Response

The types of actions relevant to the analysis of cumulative effects are described in Draft EIS Chapter 4, Section 4.2, *Cumulative Actions*. Appendix 2-B, *No-Action and Cumulative Scenarios*, presents additional information on specific projects considered in the cumulative effects analysis.

Past and present projects have contributed to existing environmental conditions, which are described for each resource area in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*. These conditions are the baseline considered in the analysis of the no-action alternative.

For the purposes of NEPA, the proposed action and alternatives are compared to the no-action alternative that captures existing conditions. The no-action alternative, as defined in the EIS, is considered the most predictable condition to assume for purposes of NEPA analysis given considerable uncertainty about what actions the applicants would take in the absence of the proposed action over the next 30 years.

The comments provide no information to demonstrate how effects of past, present, and future actions would combine with the proposed action to cause effects beyond those analyzed in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*, and Chapter 4, *Cumulative Impacts*.

Refer to response to comment EIS-3.36, *Additional Federal Projects*, and EIS-3.17, *Short- and Long-Term Effects*, regarding commenter requests for additional specificity in the cumulative effects analysis.

EIS-3.27 Reasonably Foreseeable Projects

Commenters requested that the cumulative effects analysis not be limited to projects that are currently approved and identified additional past, present, and reasonably foreseeable projects that they felt should have been included in the cumulative effects analysis.

Commenters

GP-137, ORG-14, ORG-12, TRIBE-1

Response

NEPA does not require the EIS to evaluate the impacts of the proposed action in combination with speculative future projects that are not advanced enough in the planning stage to provide for meaningful environmental review. The past, current, and future projects considered in the no-action and cumulative effects analyses were projects for which draft NEPA or other review has been completed or which are currently being permitted and were considered to be reasonably certain to be implemented. This is consistent with 43 CFR Section 46.30 (i.e., definition of “reasonably foreseeable future actions”).

Reasonably foreseeable future projects considered in the cumulative effects analysis include numerous water conservation projects proposed by the applicants, as identified in Draft EIS Appendix 2-B, *No-Action and Cumulative Scenarios*. As noted in Appendix 2-B, the cumulative effects scenario includes projects that were not included in the no-action alternative. The no-action alternative was limited to planned projects, while the cumulative effects analysis was broadened to include additional projects. These additional projects are denoted by an asterisk (*) in Appendix 2-B, *No-Action and Cumulative Scenarios*.

As noted in Draft EIS Chapter 3, Section 3.1.3, *Modeling*, the potential effects of water conservation on irrigation district water supply can be quantified at the point of diversion; therefore, the analysis of effects on agricultural resources (Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*) considered a range of potential water conservation projects (both district and on-farm). However, because effects on basin hydrology may be attenuated or concentrated during periods of low flow in different reaches of the Upper Deschutes Basin, depending on how water is conserved, hydrologic conditions, and other factors, the effects of these changes on resources were evaluated qualitatively in the cumulative effects analysis (Chapter 4, *Cumulative Impacts*).

The list of relevant activities/projects provided by commenters was reviewed against the EIS’s criteria for inclusion in the no-action and the cumulative effect analyses, and projects have been added as appropriate.

EIS-3.28 Comprehensive Summary of Effects

One commenter requested a comprehensive summary of cumulative effects under each alternative.

Commenters

ORG-12

Response

The purpose of the cumulative impact analysis is to assess the impacts of a proposed action in combination with a group of actions or projects with similar or overlapping impacts. NEPA does not require that all impacts on all resources be combined and a finding be made about an overall impact on the environment. One of the purposes of NEPA documentation, though, is to provide decision makers and the public with enough information to adequately consider the combined impacts of the project. The cumulative effects assessment included in Draft EIS Chapter 4, *Cumulative Impacts*, is considered sufficient for this analysis.

EIS-3.29 Public Land Management and Agricultural Actions

One commenter stated that public land management and agricultural uses such as grazing practices, timber harvest, fuels, vegetation management, recreation, and resource protection and enhancement activities such as restoration projects or recreational opportunities, were not adequately addressed in Draft EIS Chapter 4, *Cumulative Impacts*.

Commenters

ORG-12

Response

Past and present projects related to the activities listed by the commenter were incorporated into the no-action alternative analysis. These activities were incorporated as appropriate into the cumulative effects analysis when their execution was reasonably foreseeable. While it is likely the actions presented by the commenter will occur in the future and will have a cumulatively considerable impact, the likelihood of these actions occurring is speculative unless they are advanced enough in the planning stage to provide for meaningful environmental review.

EIS-3.30 Climate Change

One commenter objected to climate change not being considered as a type of cumulative action.

Commenters

ORG-12

Response

Climate change is a reasonably foreseeable condition that was incorporated into the analysis in Draft EIS Chapter 4, Section 4.3, *Evaluation of Cumulative Effects*.

EIS-3.31 Aesthetics and Visual Resources Analysis

One commenter stated that there was no analysis of the proposed action or Alternatives 3 and 4 in the Draft EIS Chapter 4, Section 4.3.5, *Aesthetics and Visual Resources*, and that the analysis focused only on reasonably foreseeable future actions and their impact on the landscape within the study area.

Commenters

ORG-12

Response

As discussed in Draft EIS Chapter 4, Section 4.3.5, *Aesthetics and Visual Resources*, beneficial effects of the proposed action and action alternatives of improved visual quality related to improved wetland and riparian habitat along the Upper Deschutes River would be further enhanced by planned restoration actions in the area and water conservation projects that conserve water instream but could be offset by climate change effects described in Section 4.3.3.1, *Vegetation and Wildlife*. Adverse effects on visual quality in Wickiup Reservoir could result in a cumulative impact if climate changes effects result in longer and more frequent drawdowns of the reservoir.

EIS-3.32 Consistency in Analysis

One commenter expressed that the types of cumulative actions described in Draft EIS Chapter 4, Section 4.2, *Cumulative Actions*, were not analyzed consistently among the resource assessments and requested more clarity on the context, impacts, and conclusions.

Commenters

ORG-12

Response

Draft EIS Chapter 4, *Cumulative Impacts*, was reviewed and updated for completeness and consistency in the Final EIS.

EIS-3.33 Monitoring and Adaptive Management for Cumulative Effects

One commenter requested a discussion of adaptive management and monitoring activities in light of the uncertainties associated with long-term cumulative effects, as well as more quantification of these effects.

Commenters

ORG-12

Response

The proposed action and Alternatives 3 and 4 include an adaptive management and monitoring program to ensure that it is achieving the intended benefits to the covered species. Adaptive management and monitoring would adapt to the cumulative impact on the covered species. Refer to discussion under responses to comments EIS-3.11, *Adaptive Management*, and EIS-3.10, *Mitigation Measures*, for additional detail about the monitoring, reporting, and adaptive management included in the HCP.

EIS-3.34 Short- and Long-Term Effects

One commenter stated that the Draft EIS failed to assess the short- and long-term effects in the cumulative impact analysis, and requested an evaluation of cumulative impacts through 2050 to coincide with the length of the permit term.

Commenters

ORG-12

Response

Draft EIS Appendix 2-B, *No-Action and Cumulative Scenarios*, summarizes the most relevant projects identified for this analysis and represents an attempt to focus analyses on the projects that could have effects similar to the proposed action and alternatives. Additional specificity of the impacts on the study area, as requested by the commenter, would not provide any more useful information beyond what is already presented and would not further ensure the goals of NEPA are met.

The cumulative effects analysis informs the significance of the effects of the proposed action and alternatives on the human environment. The analysis attempts to fairly characterize the potential cumulative conditions for all of the resource categories to disclose the type of information the Services will consider for HCP approval and the ITP application process.

The analysis of cumulative effects in the Draft EIS evaluates impacts through 2050.

EIS-3.35 Geographic Scope

One commenter requested that the Draft EIS extend the geographic scope of the cumulative effects assessment beyond the study area to consider upstream effects of simultaneous inter-regional development on migratory fish species.

Commenters

ORG-12

Response

The cumulative effects analysis considers the impact of the proposed action and alternatives combined with other past, present, and reasonably foreseeable future projects in the study area. The contributions of effects of upstream projects, programs, and conditions were considered when evaluating the effects in the study area. Refer to the response to comment EIS-3.27, *Reasonably Foreseeable Projects*, for discussion of reasonably foreseeable projects included in the cumulative effects analysis.

EIS-3.36 Additional Federal Projects

Commenters stated that while the Draft EIS acknowledges the “considerable influence” of U.S. Bureau of Land Management and U.S. Forest Service activities in the Basin, there is a lack of discussion of the cumulative impact of federal projects within the study area in the past, present, and future.

Commenters

ORG-12, ORG-14

Response

Considerable input was provided by FWS and other cooperating agencies related to potential projects that should be considered in the cumulative effects analysis. Draft EIS Appendix 2-B, *No-Action and Cumulative Scenarios*, summarizes of the most relevant projects identified for this analysis and represents an attempt to focus analyses on the projects that could have effects similar to the proposed action and alternatives. The summary table is based on more extensive information considered in the cumulative effects analysis. Additional detail on the projects and the impact within the study area, as requested by the commenter, would not provide any more useful information beyond what is already presented and would not further ensure the goals of NEPA are met.

The cumulative effects analyses attempt to synthesize the combined effects of the most relevant past, present, and reasonably foreseeable future projects and conditions (i.e., climate change) in the study area to inform the significance of the effects of the proposed action and alternatives on the human environment. The analyses attempt to fairly characterize the potential cumulative conditions for all of the resource categories to disclose the type of information the Services will consider for HCP approval and the ITP application process.

4 EIS Purpose and Need

EIS-4.1 Adequacy of the Purpose and Need Statement

Commenters asserted that the purpose and need statement, as described in Draft EIS Chapter 1, *Purpose and Need*, is not directly related to the proposed action and is unclear. The commenters indicated that the statement should be revised to better frame the purpose and need for the proposed action, assert FWS' role in the Deschutes Basin HCP planning and ITP processes, and provide additional detail and an expanded scope.

Commenters

ORG-12, ORG-14, ORG-15

Response

The purpose and need statement in the Draft EIS was developed through an extensive scoping process and was adopted by FWS to guide development of the proposed action and alternatives.

The purpose and need statement satisfies NEPA requirements because it is sufficiently broad enough to enable the evaluation of a reasonable range of alternatives for the proposed action. This approach was also consistent with the guidance provided in the HCP Handbook.

The range of alternatives evaluated in the Draft EIS is sufficient to foster informed decision-making and public participation. Although some commenters disagree with implementing the proposed action, this opposition does not mean that the purpose and need statement is inadequate to satisfy NEPA requirements. As the NEPA lead agency, FWS has exercised its discretion to define the purpose and need of the proposed action.

Under NEPA, an EIS must “briefly specify the underlying purpose and need to which the agency is responding in proposing alternatives, including the proposed action.” (40 CFR § 1502.13). The lead agency has “considerable discretion” to define the purpose and need of the action per *Westlands Water Dist. v. U.S. Dept. of Interior*, 375 F.3d 853, 866 (9th Cir. 2004) (*Westlands*), citing *City of Angoon v. Hodel*, 803 F.2d 1016 (9th Cir. 1986). The courts will uphold the purpose and need statement as long as it is reasonable. Although a lead agency may not define the purpose and need of a proposed action in unreasonably narrow terms, the agency is not required to craft a statement so broad that it requires consideration of alternatives that are inconsistent with the overarching purpose of the proposal per *Northwest Ecosystem Alliance v. Rey*, 380 F.Supp. 2d 1175 (W.D. Wash. 2005). Furthermore, where an action is taken pursuant to a specific statute, the statutory objectives of the proposed action serve as a guide by which to determine the reasonableness of objectives outlined in the EIS per *Westlands*, supra, 375 F.3d at p. 866.

EIS-4.2 Statement of Objectives

A commenter requested that FWS add a statement of objectives to the Final EIS.

Commenters

ORG-14

Response

The purpose of the proposed action, as described in Draft EIS Chapter 1, *Purpose and Need*, serves as the objective of the federal action.

5 EIS Alternatives Screening

Alternatives Screening

EIS-5.1 Alternative 12 Screening

One commenter stated that the range of alternatives analyzed was inadequate due to the screening out of Alternative 12. The commenter asserted that Alternative 12 met the purpose and need, would better meet the biological needs of the covered species, would reduce the effects of HCP implementation, and meets all the criteria. Additionally, the commenter claimed that there was not enough rationale provided for elimination of Alternative 12 and disagreed that implementation of on-farm efficiencies (an element of Alternative 12) was impracticable.

Commenters

ORG-12

Response

As described in Draft EIS Appendix 2-A, *EIS Alternatives Screening Process*, and noted by the commenter, Alternative 12 was eliminated because fall/winter flows under this alternative were similar to those of Alternatives 2, 3, and 4 and could be captured within the range of those other alternatives. Alternative 12 differed from other alternatives only in the mechanism proposed for

providing increased river fall/winter flows for covered species, focusing on on-farm conservation and demand management. Through the screening process, Alternative 12 was eliminated as it was deemed not different enough from another alternative to allow for clear decision-making. While Alternative 12 met the purpose and need and would presumably meet the biological needs of the species and project requirements, it was determined that Alternative 12 would not avoid or substantially lessen any of the significant environmental effects to a greater extent than the other alternatives in the range of alternatives evaluated. As set forth in NEPA regulations (40 CFR § 1502.14), an EIS analysis need not consider every possible alternative to a project, but rather a range of reasonable alternatives. Given the similarities between Alternative 12 and the alternatives evaluated, it was determined that disclosing effects of Alternative 12 would not contribute substantial additional information for the public and agency decision-makers.

On-farm efficiencies were also eliminated as an element in Alternatives 3 and 4 because the effectiveness of on-farm conservation and efficiency measures could be variable, and therefore including them as part of the analysis could render it overly speculative and would be required to be implemented extensively by DBBC patrons to meet the water savings required. As discussed in Draft EIS Chapter 3, Section 3.5.2.2, *Agricultural Resources*, on-farm efficiency improvements are outside the control of the irrigation districts and are voluntary measures that may be adopted by district patrons. This analysis assumes each irrigation district would conserve water in a manner consistent with their most recent written proposals.

EIS-5.2 Alternative 5 Screening

One commenter stated that Alternative 5 should not have been eliminated in the second-tier screen and the Draft EIS provided too little detail or rationale to explain its elimination.

Commenters

ORG-3

Response

As described in Appendix 2-A, *EIS Alternatives Screening Process*, Alternative 5 was considered only marginally feasible given the rapid water operations changes considered under this alternative and the potential negative effects on the covered species and water supply early in the permit term. When compared against Alternative 4 (i.e., enhancement of winter flows in the Upper Deschutes River of 300 cfs in years 1–5 and then 400–600 cfs in years 6–30) it was determined that Alternative 5 would not avoid or substantially lessen any of the significant environmental effects to a greater extent when compared to Alternative 4, and would be less feasible for applicants than Alternative 4. As Alternative 5 would have immediately provided minimum fall/winter flows in the Upper Deschutes River of up to 400 cfs during the winter for the entire permit term, it would not have provided more than 400 cfs of flow as provided for in Alternative 4. Therefore, Alternative 4 could be more protective for Oregon spotted frog than Alternative 5 by the end of the permit term. As a result, inclusion of Alternative 5 in the alternatives evaluated in detail in the Draft EIS was not necessary to adequately inform the public and agency decision-makers. FWS maintains that the Draft EIS includes a reasonable range of alternatives that were screened for their potential ability to meet the purpose and need for the action as described in Draft EIS Chapter 1, *Purpose and Need*. Please refer to the appropriate appendices for discussion of intermediate environmental benefits during the 20 years to reach full implementation.

EIS-5.3 Range of Alternatives

Commenters asserted that FWS did not analyze a reasonable range of alternatives and incorrectly screened out alternatives that maximize mitigation efforts. Further to this, commenters asserted that the alternatives analysis should be supplemented, improved and modified to address the competing biological needs of the multiple species and the trade-offs inherent to the proposed action.

Commenters

ORG-3, ORG-15, TRIBE-1, ORG-14, ORG-24

Response

As set forth in NEPA regulations (40 CFR § 1502.14), an EIS analysis need not consider every possible alternative to a project, but rather a range of reasonable alternatives. FWS maintains that the Draft EIS includes a reasonable range of alternatives that were screened for their potential ability to meet the purpose and need for the action as described in Draft EIS Chapter 1, *Purpose and Need*. An extensive range of alternatives was evaluated during analysis for the EIS. Draft EIS Appendix 2-A, *EIS Alternatives Screening Process*, provides an overview of the approach used to define and screen 15 separate alternatives to the proposed action. The screening process identified which alternatives to carry forward for detailed analysis in the EIS, and Appendix 2-A documents the various alternatives that were evaluated but eliminated from further consideration.

Refer to response to comment EIS-6.14, *Addressing Competing Biological Needs*, regarding alternatives to meet the biological needs of species.

EIS-5.4 Alternative to Minimize Effects to Fish Species

Commenters asserted that FWS only considered alternatives that would benefit Oregon spotted frog and failed to consider alternatives that would lessen the impact on fish in the Crooked River. Further to this commenters asserted that FWS did not identify a mechanism to protect the releases from the Bowen Dam, despite the releases being critical to the successful reintroduction of steelhead trout and Chinook salmon (*Oncorhynchus tshawytscha*) and that without protection uncontracted storage released from Bowman Dam will be available to other water users.

Commenters suggest that a new alternative that includes “key features” of Alternative 3 with additional Conservation Measures and enhanced adaptive management be analyzed.

Commenters

TRIBE-1, ORG-24, ORG-14, STATE-4

Response

The purpose of the federal action considered in the Final EIS is to fulfill the Services’ Section 10(a)(2)(B) conservation authorities and obligations and to render decisions on the ITP applications requesting authorization of incidental take of three species listed as threatened under ESA (i.e., the Oregon spotted frog, Middle Columbia River steelhead trout, and bull trout) and one non-listed species (i.e., sockeye salmon). If the Services issue the ITPs, our HCP findings

memorandum and Records of Decision will document how the conservation strategy for each covered species minimizes and mitigates the impacts of take to the maximum extent practicable.

Historical and current water management practices in the Upper Deschutes Basin have severely degraded the habitat for the Oregon spotted frog; therefore, the conservation measures needed to minimize and mitigate impacts of the covered activities on Oregon spotted frog are significant. However, FWS disagrees that the Draft EIS has not presented a reasonable range of alternatives that addresses issues for all the covered species. While improving fall and winter flows in the Upper Deschutes River and reducing spring and summer flows are expected to benefit Oregon spotted frog, these actions will also benefit other covered species in all of the basin rivers and creeks, including the Crooked River. The seasonal flow changes described for Alternatives 2, 3, and 4 on the Upper Deschutes River would likely have a corresponding effect on irrigation releases and flows in the Crooked River. For example, RiverWare modeling results show that as fall and winter flows increase for Alternative 4 and North Unit ID diversions from the Upper Deschutes River decrease, median flows on the Crooked River downstream of the North Unit ID pumps decline in a greater number of years. Therefore, the variation in fall and winter flows on the Upper Deschutes River provided by Alternatives 2, 3, and 4 will also likely result in a range of flows on the Crooked River during the irrigation season that will have variable effects and benefits for covered species depending on the alternatives selected.

The Draft EIS alternatives analyses identified that requirements and interpretation of the Crooked River Act, water rights law, and water management needs can restrict how water is released and used in the Crooked River. Real-time water management decisions, which are not fully captured by the RiverWare results, could have a substantial effect on flow and water temperature conditions in the river and these seasonal decisions would likely be made differently for each of the alternatives. As described in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the action alternatives have assumed protection of uncontracted fish and wildlife flows below Bowman Dam to Lake Billy Chinook from diversion to ensure these flows are a benefit to fish and wildlife in the lower Crooked River. Protection of uncontracted flows would however require (1) mutual agreement with all Crooked River diverters or (2) Reclamation—who holds the storage right for this water—filing for and obtaining a secondary water right to protect the uncontracted flows from diversion. Neither of these items currently exist. Analysis of effects on covered fish species also indicate that Conservation Measures CR-4, CR-5, and CR-6 would benefit covered fish species and Alternative 2 has been modified to clarify minimum flows below North Unit ID pumps (i.e., Conservation Measure CR-6) and protection of pulse flows released from Bowman Dam for fish protection (i.e., Conservation Measure CR-7). These changes have not been made in other alternatives, further improving the range of alternatives evaluated in the EIS. The Services are currently engaged in ESA Section 7 interagency consultation with Reclamation regarding Reclamation's federal discretionary actions where the effects of the unprotected releases of the uncontracted fish and wildlife water will be assessed.

However, even with these improvements in the range of alternatives, it is probable that adverse summer water temperature effects in some reaches of the Crooked River will continue, reducing the potential for successful reintroduction of salmonids in some river reaches. The Services are not aware of any other feasible alternatives or conservation measures and enhanced adaptive management that could be implemented by the applicants to benefit covered fish species in the Crooked River that would not require substantial changes in water management by the applicants, the law, and water rights. As shown in Alternatives 3 and 4, even with assumed protection of uncontracted water from diversion (from Bowman Dam to Lake Billy Chinook), analysis results

indicated that while some reaches would likely see flow and temperature improvements under Alternatives 3 and 4 downstream of the North Unit ID pumps to Osborne Canyon, in other reaches water temperature results were similar to the proposed action (without protection of uncontracted water) on the Crooked River (refer to Effect BIO-6 for Alternative 3).

It should be noted one water management factor outside the scope of the EIS alternatives has the potential to improve flow conditions on the Upper Deschutes and Crooked River: current and future water conservation projects (i.e., canal piping) that are proceeding under separate processes in the basin. These projects are intended to improve water conveyance efficiencies by reducing loss of irrigation water from canal seepage and evaporation that could result in flow improvements in the Upper Deschutes and Crooked Rivers by reducing the amount of water needed to meet seasonal irrigation demands.

EIS-5.5 HCP Alternatives to Conservation Measure CR-1

One commenter noted that the HCP included two alternatives to Conservation Measure CR-1, which were not included in the alternatives considered in the EIS.

Commenters

ORG-3

Response

The commenter is correct, the Draft HCP includes two alternatives to take that slightly affect Conservation Measure CR-1. One alternative would require minimum year-round flows in the Crooked River of 80 cfs. This alternative was rejected because it would have minimal benefit to covered fish species during the summer and it would reduce the water in Prineville Reservoir that could be released during the winter to benefit those same covered fish. The second alternative involves use of a portion of North Unit ID's 10,000 af (af) of rental water from the Prineville Reservoir for Crooked River flow. This action was rejected because reduction of the water available to North Unit ID's patrons was determined to be infeasible. Any reduction in North Unit ID's access to the 10,000 af of rental water from Prineville Reservoir for Crooked River flow, or modification in the timing of the release of the water from Prineville Reservoir, could have severe consequences for North Unit ID's patrons. Please refer also to Draft Deschutes Basin HCP Chapter 11, *Alternatives to the Proposed Incidental Take*.

EIS-5.6 No Take Alternative

Commenters disagreed with the elimination of a "no take" alternative and felt that an analysis of a no-take alternative would provide a better comparison to the proposed action. Commenters also felt that the Draft EIS did not provide enough support for the statement that a "no take" alternative would be infeasible.

Commenters

ORG-12, ORG-15

Response

As explained in Draft EIS Appendix 2-A, *EIS Alternatives Screening Process*, a no-take approach for the no-action alternative is not feasible for this EIS because no take of covered species, in the context of ongoing water facility operations, does not appear to be physically possible given the broad geography impacted by the current water management regime and the inability to simultaneously inundate Oregon spotted frog sites (to create suitable habitat) in the many wetland, oxbow, and riverine habitats that the Oregon spotted frog occupies. Sites have been highly degraded from decades of extreme high flows in the summer across this broad geography, resulting in scoured and incised reaches in the Upper Deschutes where the river is now cut deeper into the channel and further distanced from the wetland habitats that once lined the river. Further, these high flows in the summer prevent wetland and riparian vegetation growth by inundating potential habitat areas to depths that inhibit vegetation growth during the growing season. Riparian vegetation provides cover from predation and habitat structure necessary for the Oregon spotted frog to meet its life history needs. These historical impacts on the diversity of sites across this broad geography (as well as where Oregon spotted frog are present) make it extremely challenging, and likely not possible, to design a water management approach that could be implemented to prevent all take of the Oregon spotted frog and other covered species. For example, given the current location of Oregon spotted frog sites along the Upper Deschutes River and the extreme amounts of water that it would take to reach and benefit the degraded areas in which these sites occur, Upper Deschutes River water supplies would be quickly exhausted in any given year and then no water would be available to shape and manage for the benefit of Oregon spotted frog during its remaining life stages. In this scenario, Oregon spotted frog take would certainly occur, and likely at levels above the no-action alternative, the proposed action, and the action alternatives. In addition, attempts to achieve as close to no take as possible would likely involve substantial reduction, or perhaps near elimination, of Deschutes Basin water supply operations. Such a future condition is not considered feasible because of the probable economic and legal implications of such an action, as described further in Appendix 2-A, *EIS Alternatives Screening Process*, of the Draft EIS.

As described in the Draft Deschutes Basin HCP Chapter 11, Section 11.2, *Take Avoidance*, the applicants considered take avoidance, but they did not pursue it for the covered activities because it would be either economically impracticable or technically impossible. For additional detail on the practicability of take avoidance (otherwise referred to as a “no take” approach) refer to the Draft HCP Chapter 11, Section 11.2.

6 EIS Alternatives

Suggestions for Alternative Modifications

EIS-6.1 Wickiup Reservoir Operation Conservation Measure WR-1

One commenter requested that the Services analyze lower fall and winter minimum flows in the Deschutes River at full implementation (i.e., years 21–30) coupled with additional habitat improvement measures to maintain similar beneficial effects for the Oregon spotted frog as currently exists in the proposed action. Also, once completed, the Services should then use the additional Deschutes River water to bolster the North Unit ID’s water supply to offset its needs to use Crooked River water during the irrigation season, thereby making water available instream for the benefit of covered fish species.

Commenters

TRIBE-1

Response

The Services evaluated an extensive range of alternatives during analysis for the EIS. Draft EIS Appendix 2-A, *EIS Alternatives Screening Process*, provides an overview of the approach used to define and screen 15 separate alternatives to the proposed action. The screening process identified which alternatives to carry forward for detailed analysis in the EIS, and Appendix 2-A, *EIS Alternatives Screening Process*, documents the various alternatives that were evaluated but eliminated from further consideration.

A lower fall and winter minimum flow regime in the Upper Deschutes River at full implementation, coupled with habitat restoration, was not evaluated as it could not provide similar beneficial effects for the Oregon spotted frog, as these actions are mutually exclusive. Habitat modification due to water management was identified in the FWS' ESA listing rule as a primary factor impacting Oregon spotted frog in the Upper Deschutes River (50 CFR § 17; August 29, 2014, *Federal Register* 79, 168, 51, and 670). Therefore, physical habitat improvements alone, without adequate flow improvements, would not be sufficient to improve Oregon spotted frog habitat conditions because they cannot mitigate the effects of the proposed action as the current flow regime is out of sync with the life history needs of Oregon spotted frog. A detailed description of the baseline condition for and effects on the Oregon spotted frog due to storage and release of water from the reservoirs for irrigation is provided in the current FWS ESA Section 7 BiOp for the Upper Deschutes River (U.S. Fish and Wildlife Service 2017, 2019).

Additionally, while the concept of conserving irrigation storage in Wickiup Reservoir to help reduce North Unit ID diversions on the Crooked River was considered during development of the draft HCP and the alternatives development process, it was determined to be infeasible. The water stored in Wickiup Reservoir is the primary source of flows in the Upper Deschutes River that can address the impacts on the Oregon spotted frog, thereby meeting the purpose and need of the HCP. Conserving this water for irrigation purposes is therefore not feasible. Finally, the North Unit ID only has 10,000 af of rental water, from Prineville Reservoir, for use in the Crooked River. While further restrictions on the use of this water were considered, the temperature benefits provided were minimal. Additional conservation improvements may be realized through implementation of the Crooked River Act by Reclamation (currently engaged in ESA Section 7 consultation) where releases of the uncontracted (i.e., fish and wildlife water) could be managed to further address temperature concerns in the Crooked River.

EIS-6.2 Crooked River, Ochoco Creek, and McKay Creek Conservation Measures CR-1, CR-2, CR-3 and CR-4

One commenter requested that the Services analyze the Crooked River subbasin instream flows in light of our trust obligations to the CTWS and the 1855 Treaty reserved rights to have harvestable populations of fish above the Pelton Project and to an amount of water at least equal to what is required by the ESA for the covered species in the Draft EIS. In conjunction with modifications to Conservation Measure WR-1 described in comment summary *Wickiup Reservoir Operation Conservation Measure WR-1*, the commenter also requested that the Services analyze how to shape Crooked River instream flows in a manner consistent with our trust responsibility, the CTWS'

treaty-reserved rights to fish and water, North Unit ID's Crooked River irrigation water rights, and the Crooked River Act to better minimize and mitigate the impacts of incidental take of covered fish species to the maximum extent practicable.

Commenters

TRIBE-1

Response

The Draft EIS evaluated the potential effects of implementing the proposed action and action alternatives on Spring Chinook salmon, sockeye salmon, and steelhead trout, which constitute a significant part of the traditional harvest of fish by the CTWS and remain an important fishery for tribal members. The potential effects on tribal trust assets that would result from the proposed action and alternatives are evaluated in Draft EIS Chapter 3, Section 3.8, *Tribal Resources*.

Following completion of the Draft EIS public review and comment period and the production of the Final EIS, the applicants have determined that Chinook salmon should not be considered a covered species because it is not listed as threatened or endangered under the ESA, and have removed it from the Final HCP. Despite this, the effects of the proposed action and action alternatives on Chinook salmon are still analyzed in this Final EIS.

The Draft EIS does evaluate the potential effects on tribal trust assets within Section 3.8. Effect TR-2 analyzes the proposed action and alternatives effects on reintroduction of salmon and steelhead trout upstream of the Pelton Project. While storage season effects on reintroduction were determined to be beneficial, potential irrigation season effects on the Crooked River were determined to be adverse because of modeled water temperatures during summer months and uncertainty about annual water management decisions that are difficult to capture in RiverWare modeling results.

Effect TR-3 in the Draft EIS analyzes the effects of the proposed action and alternatives on wildlife and plant species harvested by the CTWS and concludes the overall effect would be not adverse because the proposed action and alternatives would improve or not change wildlife and plant species populations in most of the Deschutes Basin.

Additional analyses provided for this Final EIS that reflect changes in HCP conservation measures provided slightly different modeling results, but the conclusions for Effects TR-2 and TR-3 remain the same as disclosed in the Draft EIS.

Throughout the development of the draft HCP, the Services strongly advocated for conservation measures related to tribal trust resources, however the HCP is a voluntary, applicant-driven document. The Services understand that the Tribe's 1997 settlement did not specifically address all the Tribe's possible off-reservation water rights claims, as the 1997 settlement only addressed on-reservation and off-reservation rights to water adjacent to the reservation, (i.e. Deschutes River, Pelton Lakes, and the Metolius River; refer to the 1997 Settlement, Art. VI.A.16). However, the Services acknowledge that the Tribe's claim (as set out in its comment) to off-reservation water rights in the Deschutes Basin, and that this claim includes the Crooked River within the Plan area, as well as its tributaries. Final EIS, Section 3.8.2.1, *Confederated Tribes of the Warm Springs Reservation of Oregon* has been revised to reflect this claim.

While the facts of the *Baley* decision (cited in the Tribe's comment) are specific to the operation of a Reclamation project and the various Indian reservations in the Klamath Basin, even if its holding were applicable here the Services will conduct intra-Service section 7 consultations prior to issuing the ITPs and the ITPs will not be issued unless the Services conclude that such actions will not violate section 7(a)(2) of the ESA.

The Services will ensure that Reclamation is aware of the Tribe's claims and concern regarding shaping of flows in the Crooked River. Since the storage and release of the uncontracted (fish and wildlife) water from Bowman Dam is a discretionary federal action, it will be evaluated during the ESA Section 7 consultation process with Reclamation.

The applicants' actions and Reclamation's storage and release of water from Bowman Dam both occur and overlap in the Crooked River. For this reason, those actions will be analyzed in one BiOp that covers both the Services' issuance of ITPs and Reclamation's operations of Bowman Dam on the Crooked River. Reclamation releases water from Bowman Dam for the benefits of fish and wildlife. Optimizing the utility of this water could address some of the concerns the CTWS identifies in its comments.

EIS-6.3 Upper Deschutes River and Crooked River Conservation Measures DR-2 and CR-4

One commenter requested that the Services analyze an alternative conservation funding strategy that better balances an allocation of resources among the covered areas and the covered species. The commenter felt that it was not reasonable to allocate \$8,000 annually to the Crooked River subbasin in the context of the total capital investment associated with the HCP. They requested that the scope of the Services' analyses should include coordinating the HCP conservation funds with other sources of capital, such as the Pelton Fund, to maximize the efficiency of the HCP conservation funds. In addition to this, they recommend that the Services consider whether some of the resources currently allocated to canal piping could be better deployed to other conservation measures throughout the covered areas and among the covered species.

Commenters

TRIBE-1

Following the release of the Draft EIS for public review and comment, the proposed action was modified to include an annual \$150,000 Upper Deschutes River conservation fund and an annual \$10,000 conservation fund for Whychus Creek. Please refer to Deschutes Basin HCP Chapter 6, *Habitat Conservation*, Conservation Measures UD-1 and WC-6 for more information. Use of these funds will be governed by an implementation committee established with the entity holding the funds. The Services will be a member of the implementation committee. These conservation funds may be used for instream leasing, habitat restoration and/or enhancement projects, or other projects that benefit the covered species.

The Upper Deschutes Conservation Fund is designed to address impacts on the Oregon spotted frog. If there are projects funded via the Pelton fund that can contribute to Oregon spotted frog then the funds can be combined to further enhance Oregon spotted frog conservation needs. The Whychus Creek and Crooked River conservation fund s, which are designed to address many of the same species as the Pelton Fund, can be used for a variety of purposes, including to support larger projects funded by the Pelton Fund. Wherever possible there will be coordination to enhance and

maximize the conservation utility of the conservation funds to ensure for habitat improvements in the Deschutes River system. However, because the applicants will be providing funding specifically to minimize and mitigate for the incidental take of covered species from their covered activities, HCP funding must be focused on those efforts.

Similarly, funding to pipe canals in the basin could contribute to HCP goals and other basin programs. However, funding for canal piping is provided by the U.S. Department of Agriculture's Natural Resources Conservation Service as well as well as potentially other sources, which are outside of the Services' control, and cannot be redirected to support HCP-related mitigation.

EIS-6.4 Modification of Adaptive Management Measure

One commenter requested that the Services analyze a comprehensive adaptive management alternative that allows for future adjustments to all conservation measures in the HCP to optimize the practicable minimization and mitigation of effects on all covered species across all covered lands during the permit term.

Commenters

TRIBE-1

Response

HCPs are by nature designed to provide certainty to applicants regarding future conservation commitments. Accordingly, adaptive management actions for an HCP cannot be so open ended that they result in full revision of all conservation measures as the commenter has requested. Rather, adaptive management for an HCP requires identifying a known area of uncertainty, studies to address that uncertainty, and parameters that would be modified in the conservation measures based on the study results.

As described in Draft HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, the HCP includes multiple provisions for monitoring, reporting and adaptive management of the conservation measures for the proposed action, which are consistent with the requirements of ESA, and which have also been incorporated into the action alternatives (refer to Draft EIS Chapter 2, *Proposed Action and Alternatives*). Therefore, a stand-alone adaptive management and monitoring alternative, as described by the commenter, is not required. The Final HCP explains that compliance monitoring to ensure conservation measures are implemented as described, and effectiveness monitoring that addresses uncertainty about the results of a conservation measure, are included for specific conservation measures. Effectiveness monitoring would be applied to conservation measures affecting Crane Prairie Reservoir and Wickiup Reservoir and Upper Deschutes River Oregon spotted frog habitat. The results of these monitoring efforts would be subjected to an adaptive management process.

The Draft EIS effects analyses for Oregon spotted frog and other covered species takes into consideration the potential for adaptive management and monitoring to influence longer-term conditions for these species.

EIS-6.5 Water Storage Capacity Expansion

One commenter requested considering enlarging Haystack Reservoir or creating another reservoir closer to Culver to store water in the proposed action, cumulative effects analysis, and as an additional alternative for North Unit ID.

Commenters

GP-137

Response

The Services recognize the potential benefit that could result from the Upper Deschutes River Basin Study recommendations. Additional downstream storage and other Upper Deschutes River Basin Study recommendations were considered during development of the Draft HCP and Draft EIS but were not included as alternatives because substantial uncertainty exists about the feasibility of such an action. In addition, additional storage does not appear to meet the practicability requirements and funding assurances of an HCP. Similarly, recommendations for additional storage from the Upper Deschutes River Basin Study process was not considered a reasonably foreseeable future project that should be considered in the cumulative impacts analysis. This is because expansion of a reservoir or creation of a new downstream reservoir is highly uncertain, and because the project lacks a funding mechanism and has not been formally proposed.

EIS-6.6 Protection and Restoration of River Complexity and Habitat Complexity

One commenter claimed that the Services had ignored the habitat changes that have occurred over the history of irrigation use of the Upper Deschutes River and that protection and restoration of the river and habitat complexity should have been included in the analysis and alternatives.

Commenters

GP-179

Response

The Draft EIS analyses did take into consideration the effect that historically higher irrigation season flows and lower storage season flows has had on the Upper Deschutes River and its resources. The intent of the proposed action and action alternatives is to reduce some of the seasonal variability in flows that has resulted in channel and vegetation effects. The proposed action and action alternatives are intended to stabilize Crane Prairie Reservoir storage fluctuations, increase fall and winter releases into the Upper Deschutes River, and reduce summer releases to improve year-round habitat conditions for covered species. The FWS anticipates that flow adjustments will result in passive restoration of the Deschutes River channel over time and the will be used to implement additional active restoration activities that enhance Oregon spotted frog habitat. In some areas along the Deschutes River, these restoration activities for Oregon spotted frog will coincide with passive channel improvements that increase habitat complexity and function of the river ecosystem. These restoration actions will be timed in sequence with the flow requirements in Conservation Measure WR-1 to optimize the long-term functionality of the Deschutes River for Oregon spotted frog and other fish and wildlife. While it is recognized that implementing the proposed action or the action alternatives would not fully restore the river to pre-irrigation conditions, overall the

conservation measures proposed would minimize and mitigate the effects to the Oregon spotted frog and other covered species and their habitat over the 30-year permit term, when compared to the no-action alternative

Alternative 3 Modifications

EIS-6.7 Conservation Fund

One commenter appears to recommend that Alternative 3 should be selected by the Services and modified to base conservation funds for the Deschutes River, Crooked River, and Whychus Creek on the costs of specific restoration activities, conservation of specific flow quantities, and water quality required for covered species.

Commenters

STATE-4

Response

As detailed in Draft EIS Chapter 2, *Proposed Action and Alternatives*, allocation of the Deschutes River, Crooked River, and Whychus Creek conservation funds would be administered by implementing committees to prioritize habitat restoration or enhancement projects and flow augmentation that would benefit covered species. These conservation funds are proposed for the proposed action and action alternatives to complement related actions in the basin, but not cover or replace them entirely. Use of the funds will be governed by implementation committees, of which the Services will be members. Decisions regarding the allocation of conservation funds to maximize conservation of covered species will need take into consideration the cost of specific restoration activities, the need for flow augmentation in specific reaches, and water quality required for covered species. Given this, the total future costs of specific restoration activities and conservation of specific flow quantities and water quality projects are not fully determined at this time and it would be speculative to do so at this stage. HCPs, while providing conservation for the covered species, also must provide a degree of certainty to the applicants regarding their future commitments including defining the limits of what commitments may be required of the applicants.

EIS-6.8 Water Right Trades and Mitigation Banking

One commenter appears to recommend that Alternative 3 should be selected and modified to provide a commitment to protect instream flows through a State-held secondary instream water right, which protects the water to Lake Billy Chinook. While other commenters recommend that the selected alternative must ensure against jeopardy and that mitigation banking and water right trades be included.

Commenters

STATE-4, ORG-15, GP-134

Response

Although Alternatives 3 and 4 assumed Reclamation applied for and obtained an in-stream water right on the uncontracted water that action would need to be taken by Reclamation, as they hold the

storage right for such water. The applicants cannot effectuate this action. Further, the Services are engaged in ESA Section 7 interagency consultation with Reclamation regarding the storage and release of the uncontracted (fish and wildlife) water from Bowman Dam, where the effects of the unprotected releases of the uncontracted fish and wildlife water will be assessed.

EIS-6.9 Whychus Creek

One commenter appears to recommend that Alternative 3 should be selected and modified to develop measures for Whychus Creek to address Section 303(d) listing and low flows limiting steelhead trout, Chinook salmon, and bull trout rearing, migration, and spawning.

Commenters

STATE-4

Section 303(d) listings are Clean Water Act (CWA) designations that identify bodies of water that are impaired. Tools within the CWA are used to address these water quality impairments. The Services' issuance of an ITP is based on meeting issuance criteria under Section 10 of the ESA, including minimizing and mitigating the effect of the applicant's actions on the covered species to the maximum extent practicable. While the Services will also ensure that issuance of the ITPs and implementation of the Deschutes Basin HCP comply with other applicable federal laws, regulations, treaties, and applicable executive orders, including the CWA, they do not have the authority to require applicants to develop additional measures under the CWA.

EIS-6.10 Biological Effects

Commenters recommended that the proposed action or action alternatives should be modified by the applicants to address/include the negative biological effects of poor water quality and disease caused by return flows, tail water and effluent releases.

Commenters

STATE-4, ORG-15

Response

As set forth in NEPA regulations (40 CFR § 1502.14), an EIS analysis need not consider every possible alternative to a project, but rather a range of reasonable alternatives. The range of alternatives considered for an HCP must also take into consideration the applicant's means to implement potential alternatives (USFWS and NMFS 2016). The EIS alternatives screened and the proposed action and action alternatives analyzed within the EIS did not consider nor cannot be modified to address water quality within return flows, tail water and effluent releases because water quality impacts from these sources are outside the jurisdiction and control of the applicants. Based on the HCP, the applicants have no means to control many sources of water quality impairments throughout the basin, including sources of pollutants from return flows, tail water, and effluent releases.

Applicants' control related to return flows is limited to storage, releases, and diversions and associated effects on temperature, surface water elevations, and stream flows. The applicants have revised the Final HCP and associated request for ITP coverage to address incidental take only from

those known water quality impacts under the applicants' jurisdiction (temperature, surface water elevations, and rates and volumes of stream flows). The conservation strategy in the final HCP defers to jurisdictional authority of the Oregon Department of Environmental Quality ("ODEQ") for the management and regulation of water quality discharges from return flows, tail water, and effluent releases throughout the Deschutes basin. Effects on water quality and associated biological resources due to changes in temperature, surface water elevations, and stream flows are discussed in the Final EIS, Section 3.2 *Water Resources*, Section 3.3 *Water Quality*, and Section 3.4 *Biological Resources*.

For agricultural pollutants, the source and quantities of such pollutants are the product of a complex array of factors and actions by others that are outside the jurisdiction and control of the applicants, including operational decisions made by individual agricultural operators. The proposed action would not create additional pesticide sources, pathways or otherwise alter the occurrence of pesticides. As described in the Deschutes Basin Draft HCP Chapter 3, Scope of the DBHCP, flow and diversion rate changes on the Crooked River—the primary surface water with notable issues related to return flows—are not expected to significantly change under any of the alternatives.

For effluent discharges, the proposed action would have no effect on discharges from the City of Prineville's wastewater treatment facility. Wastewater effluent pollutants are managed under a National Pollutant Discharge Elimination System (NPDES) that is independent from the proposed action. As described in the HCP and in Final EIS, Section 3.3, Water Quality, the existing National Pollutant Discharge Elimination system (NPDES) permit addresses biological effects and no further mitigation or modification of alternatives is required. In addition, as noted, the applicants have revised their request for ITP coverage to include only those water quality effects of the covered activities related to temperature, surface water elevations, and rates and volumes of stream flows.

Therefore, the alternatives have not be modified to mitigate chemical contaminants related to return flows, tail water and effluent releases.

EIS-6.11 Ochoco ID's Withdrawal

One commenter stated that Alternative 3 fails to identify Ochoco ID's withdrawal of its protest on the instream water right as a potential conservation measure.

Commenters

STATE-4

Response

The Ochoco ID's withdrawal action is noted and may be relevant to the HCP or ESA Section 7 processes. However, it has been considered as part of the NEPA baseline, within the Draft EIS, and is therefore not included as an HCP conservation measure, as suggested.

EIS-6.12 Date of Authorization

One commenter requested that, under Alternative 3, the start year for the HCP be defined as 2019 rather than "date of authorization by the Services" as the use of this term is vague and incorrect as in many cases is this work has already commenced.

Commenters

ORG-4

Response

While the HCP was prepared in 2019 to address incidental take of ESA-listed species likely to be caused by certain water management activities, the applicants' applications for ITPs need to be reviewed by the Services to determine if they meet ITP issuance criteria before the HCP can be implemented. Given this, defining the start year for the HCP as the date of authorization, e.g., issuance of the ITP by the Services, is accurate.

EIS-6.13 Wickiup Minimum Fall and Winter Flow Schedule Adjustments

One commenter requested that the Wickiup minimum fall and winter flow schedule defined in Conservation Measure WR-1, *Wickiup Reservoir Operation* for Alternative 3 be adjusted as follows:

- 1–5 years: 200 cfs
- 6–10 years: 300 cfs
- 11–15 years: 400 cfs
- 15–30 years: 500 cfs

Commenters

ORG-4

Response

The requested modification to Alternative 3 fall and winter flow targets under Conservation Measure WR-1 is consistent with the intent of the current Alternative 3 minimum flow schedule proposal, as defined in Final EIS Chapter 2, Table 2-5, which provides for the potential for winter flows to vary between 400 and 500 cfs, between years 11 and 30, when hydrological conditions allow and annual flow decision-making concludes that sufficient storage exists in Wickiup Reservoir to achieve flows of up to 500 cfs. Early RiverWare modeling efforts indicated that requiring fall and winter minimum flows of 500 cfs or more in every year without considering the water year type, storage available in Wickiup Reservoir and precipitation forecasts would likely undermine the goal to maximize flow benefits for Oregon spotted frog. Therefore, fall and winter flows above 500 cfs were not considered further.

Following completion of the Draft EIS public review and comment period and the production of the Final HCP and Final EIS, the applicants have modified the proposed action to improve the flow conditions proposed. These revised fall and winter flows would allow for 100 cfs for years 1–7, 300 cfs for years 8–13, and 400–500 cfs for years 13–30, with application of a variable flow tool for annual decision-making to achieve flows in the 400 to 500 cfs. These changes combined with an annual \$150,000 conservation fund for the Upper Deschutes River would facilitate improvements and the recovery of Oregon spotted frog.

EIS Alternatives Analysis

EIS-6.14 Addressing Competing Biological Needs

Commenters stated that the alternatives analysis failed to address the competing biological needs of the multiple species. The commenters also stated that the analysis of the Crooked River system failed to look at year-round minimum flows, or alternatives that were divorced from the Crooked River Act. Finally, commenters recommended that the Services engage stakeholders to identify solutions for balancing the needs of the entire Deschutes Basin and focus analysis on mechanisms and ecological processes leading to desired outcomes, rather than setting precise criteria for the entirety of the ITP term.

Commenters

TRIBE-1, ORG-15

Response

All the conservation measures included in the Final EIS for the proposed action and action alternatives are proposed to improve conditions for all covered species, including steelhead trout. The Services' issuance of ITPs is based on meeting issuance criteria under Section 10 of the ESA, including minimizing and mitigating the effect of the applicant's actions on the covered species to the maximum extent practicable. Given this, the alternatives evaluated in the EIS were focused on those that could meet the purpose and need for the federal action, improve habitat conditions, reduce take, and feasibly be implemented by the applicants to benefit multiple covered species. In addition to the Services issuance of ITPs (if issuance criteria are met), other ongoing and future actions in the watershed, such as ongoing habitat restoration, flow augmentation and leasing, improvements to the Pelton Project, and water conservation projects will also be needed to supplement and further improve species conditions in the Deschutes Basin watershed.

Further, the proposed action and action alternatives are based on goals and objectives and a biological rationale for proposed conservation measures. For the Crooked River, the HCP (i.e., proposed action) proposes conservation goals and objectives 1–3, which provide for maintaining an instream flow of 50 cfs in the Crooked River during the winter irrigation storage season, funding for habitat restoration, and screening diversions to reduce entrainment and aid fish migration. These goals and objectives and the proposed conservation measures are intended to provide a clear biological rationale for minimizing and mitigating the effect of the take of covered species to the maximum extent practicable. An approach that would primarily consider biological needs without considering practicability is not the intent of ESA Section 10a(1)(b) and is not appropriate for an HCP or EIS. However, Crooked River Goal 1 is clear that the intent of Conservation Measure CR-1 is to assist in the reintroduction of the covered anadromous salmonid species in the Crooked River subbasin by contributing to instream flows and its intent is to further improve flows when Prineville Reservoir does not fill.

The applicants and the Services have collaborated with stakeholders to develop a final conservation strategy that, if approved, will provide long-term benefits to the covered species based on their biological needs. Please refer to response to comment EIS-1.1, *Length of Public Review and Comment Period Compared to Guidance*, for additional information on how the Services have engage stakeholders, throughout the HCP and EIS process.

Finally, As described in Draft HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, the HCP includes multiple provisions for monitoring, reporting and adaptive management of the conservation measures for the proposed action, which have also been incorporated into the action alternatives (refer to Draft EIS Chapter 2, *Proposed Action and Alternatives*). The HCP explains that compliance monitoring to ensure conservation measures are implemented as described, and effectiveness monitoring that addresses uncertainty about the results of a conservation measure, are included for specific conservation measures, meaning that criteria in the conservation measures can be modified, as required, over the lifetime of the ITP based on the study results.

No-Action Alternative

EIS-6.15 Analysis of Non-Issue of Incidental Take Permit

One commenter stated that the no-action alternative fails to adequately analyze take of Oregon spotted frog under the no-action alternative as the winter flow regimes proposed in the Draft EIS do not meet the winter flow recommendations (i.e., 200 cfs) made by the Services in the 2017 *Deschutes Project BiOp* to support Oregon spotted frog habitat and in the event that the irrigation districts do not receive ITPs.

Commenters

ORG-15

Response

The citing of a minimum winter flow of 200 cfs in the 2017 *Deschutes Project BiOp* was included as a conservation recommendation, to continue to increase flows toward the long-term goal of providing flows that support suitable habitat for the Oregon spotted frog, not a legal requirement (50 CFR 402.02 and 402.16(j)). As the no-action alternative assumes the continuation of the existing management plan or program, the Services believe that defining the no-action alternative to include continuation of the current minimum fall and winter flows of 100 cfs in the Upper Deschutes River is the most realistic condition that would occur in the absence of issuance of ITPs, assuming the continuation of existing management operations and programs, as defined in Draft EIS Chapter 2, Table 2-1.

EIS-6.16 No-Action Alternative Description and Analysis

Commenters expressed that information, including information relating to the NMFS 2005 BiOp, projects, plans, and programs, is omitted from the no-action alternative description and should be included to assist the public in its review, to inform the analyses, FWS' final decision, and subsequent NMFS adoption of the EIS.

Commenters

ORG-12

Response

The no-action alternative is described in Draft EIS Chapter 2, Section 2.1.1, *Alternative 1: No Action*, as required by the CEQ regulations (40 CFR § 1502.14). Consistent with NEPA's requirements, the

no-action alternative defines the future circumstances that are predicted to continue or occur without the proposed action. The list of programs and projects in Chapter 2, Section 2.1.1, is the Services' best estimate of those programs, plans, and projects that would continue into the future whether or not the proposed action is approved. Information relating to the actions covered in the current NMFS BiOp for the Deschutes River Basin Projects to address take of Middle Columbia River steelhead trout (National Marine Fisheries Service 2005) was considered for the no-action alternative but were only referenced in the Draft EIS so as not to repeat lengthy and complex discussions. The analysis of the no-action alternative in Section 3.4, *Fish and Mollusks*, captures the effects of previous BiOps to the extent that the RiverWare model is able to estimate the no-action alternative flow conditions based on the historical hydrology in the river system and no-action alternative conditions.

EIS-6.17 No-Action Alternative Not a Realistic Scenario

One commenter stated that while the Draft EIS acknowledges that under the no-action alternative the Oregon spotted frog would be subject to take, the Draft EIS analysis does not analyze what would happen under Section 9 enforcement, instead asserting that the Services would "take no action." The commenter believes that this position is implausible given the history of litigation surrounding the take of the Oregon spotted frog and the guidance provided in the Services' HCP Handbook that the no-action alternative for an HCP Draft EIS should be a condition in which no take occurs.

Commenters

ORG-15

Response

The Final EIS Chapter 2, Section 2.1.1, has been modified to clarify that "take no action" was referring to taking no action on an ITP permit application. To address questions about the feasibility or potential to allow the no-action alternative conditions to occur, Final EIS Chapter 2, Section 2.1.1, now describes the following:

For example, under the no-action alternative analyzed in this EIS, the Services would take no action on the permit application. No ITPs for the Deschutes Basin HCP would be issued, and the applicants would remain subject to the take prohibition for listed species under ESA (ESA). Ongoing applicant activities or future actions that may result in the incidental take of federally listed species would need to be authorized through ESA Section 7 where possible, as is the case now where a subset of the applicants are operating under a BiOp for ESA coverage, or through separate project-by-project ITP applications submitted by each applicant under Section 10. Specific potential actions that could be taken by the applicants under separate ITP applications are unknown, and a no-action alternative that assumes no take of covered species is not considered feasible (refer to Section 2.3, *Alternatives Considered but Eliminated from Further Consideration*, and Appendix 2-A).

This discussion clearly indicates that should no action occur, the applicants would still be subject to the requirements of the ESA. No Action means the Services would not take action on the permit application, not that no other action would occur. This No Action Alternative is appropriate because it describes what is likely to occur without an ITP without speculating about other potential actions.

EIS-6.18 Comparison between No-Action Alternative and Action Alternatives

One commenter believes that the presentation of the no-action alternative in the Draft EIS did not provide a sufficient basis by which to compare the action alternatives to the no-action alternative and that failure to provide this comparison prevented the public from comparing the status quo with the action alternatives to determine the magnitude of environmental effects of the action alternatives.

Commenters

ORG-12

Response

The no-action alternative and the action alternatives are defined in Draft EIS Chapter 2, *Proposed Action and Alternatives*. The no-action alternative defines the future circumstances that are predicted to continue or occur without the proposed action and assumes the continuation of the existing management plan or program, such as the *Deschutes Project BiOps*. The no-action alternative is, therefore, the condition against which the proposed action and action alternatives are judged and can be compared.

Draft EIS *Executive Summary*, Table ES-1, summarizes the impacts that could occur under the no-project alternative, proposed action and action alternatives for all environmental issues analyzed in the EIS. Draft EIS Chapter 3, provides a detailed analysis of potential effects and describes the approach to characterizing and evaluating each resource and the assessments methods used, the potentially affected environment for the resource, and an assessment of the environmental consequences of the no-action alternative, proposed action, and action alternatives.

EIS-6.19 No-Action Alternative Reliance on 2005 Biological Opinion Continuation and Consideration of the Crooked River Act

One commenter stated that the no-action alternative erroneously relies on the continuation of the February 17, 2005 BiOp between Reclamation and NMFS to address incidental take of steelhead trout from the activities covered by the 2005 BiOp and therefore fails to take into consideration that the adoption of the Crooked River Act was a changed circumstance which requires a new BiOp and what that means for fish flows and/or irrigation practices.

Commenters

ORG-15

Response

The 2005 NMFS BiOp represent current status and therefore are appropriate to include in the no-action alternative. The biological resources analysis in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*, do capture flow changes that occur under the Crooked River Act in the RiverWare modeling used to estimate potential effects on covered species. The Services are also engaged in ESA Section 7 consultation with Reclamation for their actions, in the Crooked River.

7 EIS Alternatives Preference

Opposition to the No-Action Alternative

EIS-7.1 Continued Degradation under No-Action Alternative

One commenter stated that the no-action alternative would result in continued degradation of the Deschutes River and dependent species and was therefore unacceptable.

Commenters

ORG-5

Response

NEPA requires an EIS to define and describe effects of a no-action alternative, which represents current and future human environment conditions that would occur in the absence of a proposed action or action alternative. The no-action alternative provides the basis for comparison of the proposed action and no-action alternatives' effects and is not an alternative that would be selected or approved by the Services. Rather, it is an estimate of what could occur if ITPs are not issued for the proposed action. Please refer to Draft EIS Chapter 2, Section 2.1.1, *Alternative 1: No Action*, for additional explanation.

Opposition to the Proposed Action

EIS-7.2 Flow Restoration

One commenter was opposed to the proposed action, stating that it would not restore flows in the Upper Deschutes' streams and rivers that have been severely affected by irrigation district infrastructure and activities for over 100 years, much to the detriment of native aquatic populations.

Commenters

ORG-2

Response

Both the proposed action and the action alternatives would improve flow conditions in basin creeks and rivers. In the Upper Deschutes River over the permit term, fall and winter flows would substantially increase under the proposed action and the action alternatives compared to the no-action alternative. The proposed action and the action alternatives would also provide for less variation of storage and irrigation season flows, which is expected to reduce bank erosion, stabilize streamside vegetation, and improve habitat conditions for covered species.

Opposition to the Proposed Action Alternatives

EIS-7.3 Impacts on Irrigation Districts, Farmers, and Agricultural Community

Commenters were opposed to analyzing additional mitigation beyond what is proposed in the Draft HCP (Draft EIS, proposed action), stating that the disproportionate impact and excessive mitigation on the North Unit ID, its farmers, and the local agriculture community relative to the broader central Oregon region threatens individual on-farm profitability while jeopardizing ongoing irrigation operations and improvements and conservation efforts in the Deschutes Basin.

Commenters

GP-156, GP-157

Response

When preparing an EIS, an agency must include alternatives to the proposed action for comparison (40 CFR § 1502.14). In line with this requirement, FWS presented a host of additional measures, intended to mitigate adverse environmental consequences, and analyzed them within the Draft EIS as components of the action alternatives. The analysis of these additional action alternatives are intended to inform decision makers about reasonable measures that could improve the proposed action and to advance NEPA's purpose of ensuring informed and transparent environmental decision making.

The potential effects of implementing the proposed action and action alternatives on North Unit ID and other basin districts were fully evaluated in the Draft EIS. Water supply effects are disclosed in Draft EIS Chapter 3, Section 3.2, *Water Resources*, and do conclude that the proposed action and the action alternatives would result in a reduction in North Unit ID water supply compared to the no-action alternative. Given this, the applicants have, through several years of collaboration, worked to develop a proposed action to protect their ability to supply irrigation water to their patrons. The proposed action is designed to maintain current Upper Deschutes River irrigation diversions at the beginning of the permit term to provide some time for North Unit ID and other districts to plan for and adjust to future lower Wickiup Reservoir storage conditions. Conservation Measure WR-1 is proposed to strike a balance between reduction of take of covered species and the viability of continued agricultural operations in the basin.. Further, the proposed action or the action alternatives and their associated conservation measures do not limit or impede the continuation or implementation of additional water conservation projects by the district or patrons to increase district conveyance efficiencies and on-farm irrigation efficiencies.

Draft EIS Chapter 3, Sections 3.5, *Land Use and Agricultural Resources*, and 3.9, *Socioeconomics and Environmental Justice*, present the effects of reduced water supply on water for crops and the associated effects on the agricultural and local economies. Please also refer response to comment EIS-19.4, *Negative Effects on North Unit ID Farmers and Local Economy*, which provides additional information on this matter.

While it is recognized that some of the conservation benefits under the action alternatives would more greatly affect North Unit ID, inclusion of these measures in the EIS analysis ensures that a reasonable range of alternatives are being analyzed.

EIS-7.4 General Opposition

Commenters expressed general disagreement with the adequacy of the Draft HCP and Draft EIS, the proposed action, use of tax dollars, the effects analysis, tourism on the Deschutes River, farming practices, the need for the project, and various other concerns.

Commenters

ORG-15, ORG-22, GP-1, GP-2, GP-8, GP-9, GP-10, GP-14, GP-21, GP-28, GP-30, GP-32, GP-38, GP-40, GP-45, GP-73, GP-75, GP-78, GP-82, GP-90, GP-91, GP-92, GP-122, GP-125, GP-134, GP-135, GP-139, GP-159, GP-170, GP-173, GP-180, FLP-2, FLP-5, FLP-12, FLP-21, FLP-23, FLP-24, FLP-29, FLP-30, FLP-31, FLP-35, FLP-46, FLP-56, FLP-61, FLP-62, FLP-65, GP-93, GP-42, ORG-1, ORG-23, FLP-17, ORG-2, GP-29, GP-34, GP-172, GP-190, GP-191, GP-124

Response

Comments were reviewed for substantive issues on the EIS as required by NEPA guidelines and were found to be non-substantive and without sufficient detail for consideration. Substantive comments are responded to throughout this appendix.

Support for the Proposed Action and Action Alternatives

EIS-7.5 General Support

Several commenters confirmed their support for the proposed action as it is based on best available science and is the only realistic long-term alternative, striking a balance for all stakeholders between the recovery of listed species, water flows, irrigation requirements, timelines, and impacts on the local agricultural economy.

Commenters

LOCAL-1, ORG-18, GP-136, GP-146, GP-150, GP-153, GP-154, GP-156, GP-157, GP-160, GP-162, GP-186, ORG-5, ORG-9, ORG-10, ORG-13, ORG-17, ORG-19, GP-121, GP-133, GP-142, GP-167, FLP-12

Response

The Services acknowledge commenters' support for the proposed action. The commenters should note, however, that updates to the proposed action conservation measures have been made since the release of the Draft EIS. Final EIS Chapter 2, *Proposed Action and Alternatives*, has been revised to reflect these updates, which include: expedited implementation of fall and winter flows enhancements, inclusion of the Upper Deschutes Conservation Fund, and other changes aimed at increasing its conservation effects. These updates to the proposed action have been made to improve the conservation effect of the proposed action on covered species. Most of these changes reflect elements of Alternative 3 that were analyzed in the Draft EIS. Final EIS Chapter 3, *Affected Environment and Environmental Consequences*, presents updated analyses to reflect these changes. No new or more significant impacts were identified as a result of these updates.

Support for Alternative 3

EIS-7.6 General Support

A number of commenters confirmed their support for the selection of Alternative 3 because it includes expedited implementation of fall and winter flow enhancements, the establishment of conservation funds and the protection of uncontracted storage releases from Bowman Dam, and the best balance between hydrological beneficial and adverse effects downstream of Wickiup Dam. As a result, commenters felt that Alternative 3 would help support the mitigation and restoration of covered species and bring the greatest benefit to the river, fish, and wildlife in a shorter time period.

Commenters

FED-1, STATE-4, LOCAL-1, ORG-4, GP-176

Response

The Services acknowledge commenters' support for Alternative 3. The commenters should note, however, that Final EIS Chapter 2, *Proposed Action and Alternatives*, describes updates to the proposed action. Refer response to comment EIS-7.5, *General Support*.

Support for Alternative 4

EIS-7.7 General Support

Several commenters supported the selection of Alternative 4, stating that it balances the present needs of the river and its inhabitants with that of the agricultural community and restoration needs. Commenters were in support of the inclusion of the flow regimes, shorter incidental permit term, and increased conservation measures included in Alternative 4 because they believed that they would more rapidly restore water quality, improve habitat, and offer a greater level of relief and protection for endangered species, when compared to the other alternatives.

Commenters

ORG-3, ORG-5, ORG-12, ORG-18, GP-2, GP-6, GP-45, GP-88, GP-91, GP-92, GP-99, GP-80, GP-103, GP-110, GP-137, GP-145, GP-158, GP-165, FLP-69, GP-181, FL-1, FLP-64, FLP-66, FLP-70

Response

The Services acknowledge commenters' support for Alternative 4. The commenters should note, however, that Final EIS Chapter 2, *Proposed Action and Alternatives*, describes updates to the proposed action, which have been made since the release of the Draft EIS. Please refer response to comment EIS-7.5, *General Support*.

EIS-7.8 Support for North Unit ID Mitigation

One commenter supported Alternative 4, but only on the understanding that harm to North Unit ID will be addressed and mitigated and that in critical low water years flexibility may be needed.

Commenters

ORG-5

Response

The Services acknowledge the commenter's support for Alternative 4. NEPA requires comparative evaluation of a reasonable range of alternatives that are technically and economically practicable and feasible, that avoid or reduce environmental effects, and that meet the purpose and need for the federal action as described in Draft EIS Chapter 1, *Purpose and Need*. The purpose of Alternative 4 would be to implement the HCP as described in the proposed action, but with a 20-year permit term, and modifications to the conservation strategy to address accelerating flow modifications and the uncertainty about covered species responses to flow modifications. A 20-year permit term would allow for adjusting the conservation strategy sooner than under a 30-year permit term for the proposed action and Alternative 3. While it is recognized that the conservation benefits under Alternative 4 would more greatly affect North Unit ID, its inclusion in the EIS analysis ensures that a reasonable range of alternatives are being analyzed.

Further, the commenter should note that Final EIS Chapter 2, *Proposed Action and Alternatives*, describes updates to the proposed action, which have been made since the release Draft EIS. Please refer response to comment EIS-7.5, *General Support*.

Support for Alternative 3 and Alternative 4**EIS-7.9 Preference for the Action Alternatives**

A number of commenters stated their preference for the action alternatives over the proposed action because the action alternatives have expedited timelines for increasing and stabilizing flows, provide protection of Crooked River water and flows released from Bowman Dam, are more responsive to climate change pressures, include provision for a conservation fund, and would offer improved conditions and/or significant benefits for Oregon spotted frog, steelhead trout, and Chinook salmon while also protecting important agriculture needs.

Commenters

STATE-2, ORG-5, ORG-14, ORG-19, GP-104, GP-106, GP-134, GP-137, GP-148

Response

The Services acknowledge commenters' support for Alternatives 3 and 4. The commenters should note, however, that Final EIS Chapter 2, *Proposed Action and Alternatives*, describes updates to the proposed action, which have been made since the release of the Draft EIS. Please refer response to comment EIS-7.5, *General Support*.

8 Water Resources—Water Users and Water Rights

Request for Clarification

EIS-8.1 Tribal Water Rights

One commenter noted that the CTWS was not identified as a water user in Draft EIS Section 3.2, *Water Resources*, and that the Tribe holds reserved water rights per the Tribe's WRSA in the Deschutes and Metolius Rivers.

Commenters

TRIBE-1

Response

The study area for changes in water supply in the Draft EIS Chapter 3, Section 3.2, and Appendix 3.2-A, *Water Resources Technical Supplement*, includes the Deschutes River and Crooked River and hydraulically connected surface water tributaries above Lake Billy Chinook where the proposed action and action alternatives were considered to have the potential to affect water supply. The Lower Deschutes and Metolius Rivers were not included in the study area because the proposed action and action alternatives have no potential to affect water supply in these rivers. Therefore, water users with water rights in the Lower Deschutes and Metolius Rivers, including the CTWS, were not identified as a water user in Draft EIS Chapter 3, Section 3.2, or Appendix 3.2-A.

Draft EIS Chapter 3, Section 3.8, *Tribal Resources*, does consider the potential for the proposed action and action alternatives to affect the ability of the CTWS to exercise this reserved water right.

Assumptions

EIS-8.2 Crooked River Water Users

The commenter posits that only North Unit and Ochoco IDs can be affected by the proposed action and alternatives; the assertion that other water users in the Crooked River could be affected by the proposed action is evidence that those irrigators are diverting uncontracted storage releases.

Commenters

ORG-15

Response

As described in Draft EIS Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*, Effect WR-2: *Change Water Supply for Irrigation Districts and Other Surface Water Users*, the "other Crooked River water users" include small irrigation districts, private irrigators using shared conveyance systems, and private irrigators with individual diversion (refer to Draft EIS Appendix 3.2-A, *Water Resources Technical Supplement*, Table 3). As shown in Table 3, the irrigators in this category include Prineville Reservoir contract holders. Furthermore, the terms of the HCP affecting Ochoco and North Unit IDs influence the manner in which the water users utilize available water supply, which in turn affects

other water right holders on the Crooked River, regardless of whether their water rights are for natural flow or storage.

Adequacy of Analysis

EIS-8.3 Results of Protection of Flows Instream on the Crooked River

One commenter asserted that if protection of uncontracted storage releases in Prineville Reservoir from diversion sources would result in higher minimum flows throughout Prineville Valley, and not just below the North Unit ID pumps, the reservoir should stay at the same level.

Commenters

ORG-15

Response

The primary driver of the increase in effects on Prineville Reservoir under the proposed action and action alternatives is that implementation of Alternatives 3 and 4 would have a greater effect on Wickiup Reservoir storage. This, combined with increased winter minimum flows in the Crooked River (Conservation Measure CR-1), causes an increase in the frequency and volume that North Unit ID calls for from Prineville Reservoir, decreasing the frequency of filling Prineville Reservoir, and thus the volume of water available for release for fish and wildlife purposes. Additionally, increasing bypass flows in McKay Creek and Ochoco Creek and protecting stored water under temporary instream leases for Ochoco ID patrons (Conservation Measures CR-2, CR-3, and CR-4) may contribute to a decline in Prineville Reservoir storage by increasing Ochoco ID stored water releases in years that Prineville Reservoir does not fill. In addition, and while somewhat counter-intuitive, protection of uncontracted flows under Alternatives 3 and 4 from diversion would result in more water released from Prineville Reservoir and therefore decreased reservoir storage, compared to the proposed action. Finally, the minimum winter release of 80 cfs under Alternative 4 (compared to 50 cfs under the proposed action and Alternative 3), decreases the likelihood of filling Prineville Reservoir and, therefore, the volume of water available to the uncontracted account because this account fills last. This effect was most pronounced during dry and very dry years.

Please also refer to response to comment EIS-8.2, *Crooked River Water Users*.

EIS-8.4 Crooked River Water Users Live Flow Water Rights

One commenter stated that Appendix 3.2-A, *Water Resources Technical Supplement*, Table 3 does not provide a complete list of all live flow water rights on the Crooked River.

Commenters

ORG-15

Response

A detailed list of water rights for natural flow of the mainstem Crooked River and stored water from Bowman Dam to Lake Billy Chinook has been added as Table 4 in Final EIS Appendix 3.2-A, *Water Resources Technical Supplement*.

Water Conservation Projects—Request for Clarification

EIS-8.5 Amount of Water Conserved Instream

One commenter noted that Oregon law allows for a portion of water conserved through piping to be allocated to out-of-stream water users and therefore not all conserved water is required to be protected in stream.

Commenters

FED-2

Response

Table 5 of Draft EIS Appendix 3.2-A, *Water Resources Technical Supplement*, Table 5 presents the amount of water conserved instream by the Swalley and Tumalo ID projects based on IDs' approved watershed plans; these values represent 75% of water conserved instream for Swalley ID and 100% for Tumalo ID.

EIS-8.6 Projects Included in the No-Action Analysis

One commenter noted that the criteria used and applied for considering whether a project is a reasonably foreseeable future action under the no-action alternative was not consistently applied.

Commenters

ORG-15

Response

Appendix 2-B, *No-Action and Cumulative Scenarios*, was reviewed and updated in the Final EIS as appropriate to ensure that projects reflect the criteria for inclusion. Analysis in Final EIS Chapter 4, *Cumulative Impacts*, was revised in line with the updates in Appendix 2-B, as required.

Request for Additional Information or Analysis

EIS-8.7 Water Conservation Assumptions

Commenters noted that the Draft EIS does not anticipate water conservation through piping projects beyond Tumalo and Swalley IDs to include Central Oregon, Lone Pine, North Unit, Arnold, and Ochoco IDs, and thus may overestimate irrigation shortages.

Commenters

ORG-15

Response

Draft EIS Chapter 3, Section 3.1, *Introduction*, explains which past, current, and future water conservation projects were incorporated into the RiverWare model and which were incorporated outside of the model in the Chapter 3 analyses.

The effects of other planned water conservation projects on reservoir storage and streamflows also are not captured in the modeling results. These future projects would improve water supply efficiency and streamflow conditions; however, they were not included as assumptions in the RiverWare model because of uncertainty about where these future projects would be located and timing of their implementation. These factors are essential in determining the extent and timing of their potential effects on basin hydrology in relation to the HCP and associated flow targets. The potential effects of water conservation on irrigation district water supply can be quantified at the point of diversion. Therefore, the analysis in Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, considered a range of potential water conservation projects (both district and on-farm) and their effects. This analysis is reflected in Draft EIS Chapter 3, Sections 3.5, *Land Use and Agricultural Resources*, and 3.9, *Socioeconomics and Environmental Justice*. However, because it can be assumed that these projects occur in the foreseeable future and effects on basin hydrology may be attenuated or concentrated during periods of low flow in different reaches of the Upper Deschutes Basin (depending on how water is conserved, hydrologic conditions, and other factors), the effects of these changes on resources were evaluated qualitatively in the cumulative analysis (Draft EIS Chapter 4, *Cumulative Impacts*).

Final EIS Chapter 3, Section 3.1, *Introduction*, describes the Central Oregon ID project that was incorporated into the updated RiverWare modeling used for the Final EIS analysis. As of August 1, 2020, the other irrigation districts identified in the comment (i.e., the Lone Pine, North Unit, Arnold, and Ochoco IDs) have not completed draft watershed plans as required by Public Law (PL)-566. In the absence of information about the IDs' intended use of water saved through piping, the effects of water conservation on water supply and instream flow cannot be quantitatively evaluated.

Potential piping projects likely to occur over the analysis period that could not be quantitatively evaluated in Chapter 3 beyond the analyses are identified in Draft EIS Appendix 2-B, *No-Action and Cumulative Scenarios*, and were addressed in Draft EIS Chapter 4, *Cumulative Impacts*.

EIS-8.8 Water Year Types

One commenter requested information about how water year types were determined and what data were used to identify water years as one type or another.

Commenters

ORG-15

Response

The methodology for assigning water year types is described in Draft EIS Chapter 3, Section 3.2.1, *Methods*. Examples of years meeting the criteria are provided also provided in Draft EIS Chapter 3, Section 3.2.1, in Table 3.2-1. These methods have been added in Final EIS Appendix 3.2-A, *Water Resources Technical Supplement*.

9 Water Resources—Water Storage and Supply

Request for Additional Information or Analysis

EIS-9.1 Existing Water Supply Conditions

One commenter stated that Draft EIS Chapter 3, Section 3.2.2.1, *Affected Environment, Water Supply*, should describe how the covered activities and facilities have contributed to the degraded baseline conditions. In addition, the commenter states that cross-references to the appendix or HCP are not sufficient replacements for including the EIS section.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2.2.1, *Affected Environment, Water Supply*, succinctly describes the portions of the existing water rights and associated storage, conveyance, and diversion of water that would be affected by the proposed action and alternatives as the current baseline condition. Section 3.2.2.1 states “Changes in timing and volume of releases from the study area reservoirs under the proposed action and alternatives would affect the amount of water stored in the reservoirs and consequently the amount of water supply.” Additional descriptions of the history and background of how the water rights and associated activities contributed to the current/baseline conditions is beyond “succinctly describing” the environment. Some of this historical context can be found in HCP Chapter 2, *Introduction and Background*, and Chapter 4, *Current Conditions of Covered Lands and Waters*. Draft EIS Chapter 2, *Proposed Action and Alternatives*, summarizes the covered actions in the study area.

Supporting information for water resources is also provided in Draft EIS Appendix 3.2-A, *Water Resources Technical Supplement*. This information is synthesized in the body of the EIS to improve readability and of analyses and conclusions. Refer to response to comment EIS-1.2, *Length of Public Review and Comment Period*, for additional discussion regarding the length and complexity of the Draft EIS and Draft HCP.

EIS-9.2 No-Action Alternative Water Supply Conditions

One commenter stated that the Draft EIS should analyze potential impacts on existing or future water rights under the no-action alternative.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2, *Water Resources*, describes water rights for storage and diversion of water as part of the affected environment to provide a basis for the discussion of water supply impacts on water user with water rights. Potential forfeiture for non-use or changes to State of Oregon rules that would constitute effects on existing water rights independent of water supply are

not contemplated nor are such effects reasonably foreseeable as a result of the proposed action or action alternatives. Changes to state rules and statute that could occur under future conditions without the proposed action are beyond the scope of this EIS.

EIS-9.3 No-Action Alternative Reservoirs

One commenter stated that the Draft EIS should provide additional information under the no-action alternative related to effects on reservoirs and water supply.

Commenters

ORG-12

Response

As stated in Draft EIS Chapter 3, Section 3.2.3.1, *Alternative 1: No Action*, continuation of existing water management operations under the no-action alternative would result in no changes in water resources compared to existing conditions.

Draft EIS Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*, and Appendix 3.2-A, *Water Resources Technical Supplement*, present modeled reservoir elevations and water supply under the proposed action and no-action alternative.

EIS-9.4 Municipal Water Supply

One commenter noted that the Draft EIS does not include specific consideration of municipal water supply needs or the connection between mitigation for groundwater pumping and planned water conservation projects.

Commenters

ORG-13

Response

Conversion of irrigation district water rights to mitigation credits under the Deschutes Basin Mitigation Program for use by municipal suppliers has occurred sporadically since the inception of the Mitigation Program in 2002. However, it is not clear how planned water conservation projects would generate mitigation credits, nor are any such projects proposed. Therefore, the creation of mitigation credits cannot be deemed reasonably foreseeable over the analysis period and the potential effects of future mitigation credit supplies are not evaluated in the EIS.

Request for Clarification

EIS-9.5 Connection of Analysis of WR-2 Effects under the Proposed Action to Existing Conditions

One commenter stated that the structure of the analysis of effects on water supply (WR-2) under the proposed action does not correspond clearly to how the existing conditions for water supply are presented in the affected environment section.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2.2.1, *Affected Environment*, describes the current water resources conditions against which the no-action alternative effects are judged. Draft EIS Chapter 3, Section 3.2.3, *Environmental Consequences*, compares effects of the proposed action and action alternatives to the no-action alternative effects. Tables and figures in this section and the referenced appendix present modeled results for all alternatives. Draft EIS *Executive Summary*, Table ES-1 also summarizes and compares the effects of the no-action alternative and alternatives.

EIS-9.6 Effect of Winter Releases from Wickiup Reservoir on Water Supply

The commenter notes that the statement in the Draft EIS that Wickiup Reservoir storage would decline starting in year 6 is inconsistent with historical gauge records that show Wickiup Reservoir can fill even with higher winter flow releases from Wickiup Reservoir.

Commenters

ORG-15

Response

Final EIS Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*, clarifies that reductions in Wickiup Reservoir storage starting in year 6 would only occur during normal, dry, or very dry years.

EIS-9.7 Wickiup Reservoir Storage

The commenter inquires as to the reason why data provided in the appendix do not show that Wickiup Reservoir storage ever reaches 200,000 af.

Commenters

FED-2

Response

The Draft EIS water resources analysis is based on RiverWare modeling results. While Wickiup Reservoir does reach 200,000 af of water in the modeling, it only reaches this volume in a couple of years. Because the graphs present the 20 to 80% range, they do not show these maximum volumes. Please refer to Draft EIS Appendix 3.1-B, *RiverWare Model Technical Memorandum: Hydrologic Evaluation of Alternatives for the Deschutes Basin HCP*, for additional information.

10 Water Resources—Groundwater

Adequacy of Analysis

EIS-10.1 Recharge Effects Downstream of Sunriver under the No-Action Alternative

One commenter stated that effects on groundwater under the proposed action and action alternatives cannot be compared to the no-action alternative because effects under the no-action alternative are not described.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2.3.1, *Alternative 1: No-Action Alternative*, states that the continuation of existing water management operations under the no-action alternative would result in no changes in water resources compared to existing conditions. Existing groundwater conditions are described in Draft EIS Chapter 3, Section 3.2.2.3, *Groundwater*, under the affected environment.

EIS-10.2 Recharge Effects Downstream of Sunriver under Existing Conditions

One commenter stated that the river segment downstream of Sunriver was not described in the affected environment section and therefore impacts cannot be adequately compared to the baseline conditions.

Commenters

ORG-12

Response

Existing groundwater conditions associated with river segments downstream of Sunriver are described in Draft EIS Chapter 3, Section 3.2.2.3, *Groundwater*, under affected environment for groundwater. The section states the only significant losing reach of the Deschutes River occurs between Sunriver and Bend. This relationship is then further described in the Appendix 3.2-A, *Water Resources Technical Supplement, (River–Groundwater System Interactions)*.

Requests for Additional Information or Analysis

EIS-10.3 Effects of Water Conservation Projects

Commenters requested that impacts of previous piping projects be acknowledged, and that the EIS evaluate all future piping projects and their impacts on springs and the corresponding impacts on the cold water fish refugia.

Commenters

ORG-12, ORG-14

Response

Refer to response to comment EIS-8.7, *Water Conservation Assumptions*, for an explanation of how past, current, and future water conservation projects were addressed in the Draft EIS and updates to the Final EIS.

Regarding effects on groundwater, Draft EIS Chapter 4, Section 4.3.1, *Evaluation of Cumulative Effects, Water Resources*, states that as the canal seepages are reduced the resulting groundwater discharge would return to a more natural state. The Final EIS analysis of groundwater effects reflects the incorporation of Central Oregon Irrigation ID's Smith Rock-King Way Infrastructure Modernization project. As described in Final EIS Chapter 3, Section 3.2.3.1, *Alternative 1: No-Action*, a cumulative reduction of canal leakage equal to about 10% of the total estimated current annual leakage (in 2013) would result in an eventual reduction in spring flows.

11 Water Resources—Seasonal Flows

Request for Additional Information or Analysis

EIS-11.1 Drivers of Reservoir Levels

The commenter noted that reservoir water surface elevations are also influenced by reservoir releases.

Commenters

STATE-1

Response

Final EIS Chapter 3, Section 3.2, *Water Resources*, has been updated to include reservoir releases as a component that affects reservoir water surface elevations.

EIS-11.2 Geographic References

The commenter noted a lack of discussion regarding the geographic location of Benham Falls.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2, Figure 3.2-1, is the study area map and includes Benham Falls as a labeled geographic feature.

EIS-11.3 Flow Effects on Crooked River Reach

The commenter noted the Impact WR-4 (Change Seasonal River and Creek Flows) analysis does not include a flow analysis for Osborne Canyon on the lower Crooked River.

Commenters

ORG-12

Response

The Osborne Canyon gauge (COBO) was not included as a RiverWare node. The Draft EIS includes the Crooked River at Smith Rock State Park near Terrebonne, Oregon, gauge station (CRSO) operated by the Oregon Water Resources Department. The CRSO gauge is located downstream from the North Unit ID pumps and the gauge is representative of stream flow entering Osborne Canyon. There are spring inputs between the CRSO gauge and Osborne Canyon, but the CRSO gauge was determined to be representative of flows in Osborne Canyon.

EIS-11.4 Flooding Characteristics on Deschutes River

One commenter provided details on flooding characteristics on the Deschutes River and requested that the Deschutes River flood flow description characterize the reach-specific and seasonal flood effects in more detail.

Commenters

FED-2

Response

Final EIS Chapter 3, Section 3.2.2.2, *Surface Water*, includes a more detailed description of seasonal flooding locations, timing, and avoidance measures. Final EIS Section 3.2.2.2, *Surface Water*, and Section 3.2.3, *Environmental Consequences*, include more detailed descriptions of seasonal flooding locations, timing, and avoidance measures.

EIS-11.5 Flood Characteristics of Little Deschutes River

The commenter requested additional detail regarding flooding on the Little Deschutes River in relation to flows on the mainstem Deschutes River.

Commenters

FED-2

Response

Final EIS Chapter 3, Section 3.2.3, *Environmental Consequences*, includes a more detailed description of seasonal flooding locations, timing, and avoidance measures.

EIS-11.6 Elevated Flood Risk Levels

One commenter stated that a source was not provided to support the use of 90% reservoir storage capacity as the threshold for identify elevated flood risk.

Commenter

ORG-12

Response

The 90% of capacity threshold is intended to serve as an indicator to determine if reservoir storage under the proposed action and action alternatives would approach maximum storage capacity more often compared to the no-action alternative, and therefore serves as a useful indicator for determining if there may be increased potential for flooding. In cases when this indicator shows that reservoir storage would increase compared to the no-action alternative it can be useful to conduct more rigorous analyses to determine the magnitude of the risk. Because the proposed action and action alternatives generally show reductions in reservoir storage this additional analysis was not required.

EIS-11.7 Flow Variability

The commenter noted that additional discussion should be added about flow variability.

Commenters

FED-2

Response

Final EIS Chapter 3, Section 3.2.3, *Environmental Consequences*, includes additional discussion on seasonal flow variability related to water use and basin hydrology.

EIS-11.8 Water Resources Figure

The commenter requested improving geographic references for features and locations described in the narrative, but did not cite any specific information.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2, Figure 3.2-1, depicted the water resources study area and includes geographic features referenced in the text. The text has been reviewed and additions to geographic features added as appropriate in the Final EIS, Chapter 3, Section 3.2, *Water Resources*.

EIS-11.9 Flood Effects in Prone Areas

The commenter noted the flood analysis does not connect reservoir flood risk with the four identified flood-prone areas downstream from Wickiup Dam in Draft EIS Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*.

Commenters

ORG-12

Response

The Draft EIS Chapter 3, Section 3.2.2.2, *Surface Water*, includes information on flood control risks and management. The Final EIS, Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*, has been updated to include a discussion of reservoir flood storage capacity and effects of the proposed action on reservoir storage and potential flooding in river reaches downstream of Wickiup Dam and Bowman Dam.

EIS-11.10 Proposed Action Alternative Flood Effects

The commenter states that there is no discussion of flood flow conditions on the Crooked River under the no-action alternative.

Commenters

ORG-12

Response

The text describing effects on Crooked River Flood Flows under Impact WR-4 (Change Seasonal River and Creek Flows) in Final EIS, Chapter 3, Section 3.2.3, *Environmental Consequences*, has been updated to include references to figures showing modeled flows under both alternatives presented in Appendix 3.2-A, *Water Resources Technical Supplement*.

EIS-11.11 No-Action Alternative Flood Risk

The commenter states that there is no discussion of flood risk associated with the no-action alternative.

Commenters

ORG-12

Response

Existing flood conditions associated with the reservoirs were described in Draft EIS Chapter 3, Section 3.2.2, *Affected Environment*, while flood risks associated with the no-action alternative were discussed in the Draft EIS, Chapter 3, Section 3.2.3.1, *Alternative 1: No-Action*. Information in the Final EIS, Chapter 3, Section 3.2.3.1, *Alternative 1: No-Action* has, however, been updated to provide additional information to support the conclusions drawn.

EIS-11.12 No-Action Alternative Flow Effects

The commenter asserts that there is not sufficient analysis of the anticipated effects on flow patterns under the no-action alternative to support the analysis of effects of the proposed action in Impact WR-4, (Change Seasonal River and Creek Flows).

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action under Impact WR-4, Change Seasonal River and Creek Flows*, describes changes in flows under the proposed action compared to the no-action alternative. The discussion includes references to modeled flows provided in Appendix 3.2-A, *Water Resources Technical Supplement*. Presented data include the aggregated hydrograph in years 1–7 and years 13–30, normal year and dry year hydrographs, and summary data tables illustrating no-action versus proposed action difference for storage and irrigation seasons over the phases of the permit term and water year types.

EIS-11.13 No-Action Alternative Flow and Reservoir Effects

One Commenter asserted that while information had been provided on surface and seasonal flows, reservoir effects, sediment/permeability and small tributary influences on flow downstream in Draft EIS, Chapter 3, Section 3.2.2.1, *Water Supply, No Action Alternative*, the corresponding analysis appeared to be missing several tributaries to the Deschutes River, the Middle Deschutes River, and the effects of Crooked River reservoirs on the Crooked River, Ochoco Creek, and McKay Creek for the no-action alternative.

Commenters

ORG-12

Response

As stated in Draft EIS, Chapter 3, Section 3.2.3.1, *Alternative 1: No Action*, continuation of existing water management operations under the no-action alternative, described in Draft EIS Chapter 2, *Proposed Action and Alternatives*, would result in no changes in water resources compared to existing conditions.

Draft EIS, Chapter 3, Section 3.2.3.2, *Alternative 2: Proposed Action*, and Appendix 3.2-A, *Water Resources Technical Supplement*, included analyses for the waterbodies noted by the commenter based on modeled flows and reservoir elevation under the proposed action and the no-action alternative.

EIS-11.14 Affected Environment for Reservoirs

The commenter asked what Crooked River reservoirs were analyzed.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.2, *Water Resources*, Table 3.2-2, list each reservoir analyzed, along with its capacity, authorized water supply storage, and water rights.

Adequacy of Analysis**EIS-11.15 Flood Storage Water Rights**

The commenter notes there are no water rights associated with flood water storage in Crane Prairie Reservoir or Wickiup Reservoir.

Commenters

FED-2

Response

As stated in Draft EIS Chapter 3, Section 3.2.2, *Affected Environment*, the primary water right associated with the reservoirs is to store water; the secondary water right is to use the stored water. Flood control is a temporary containment of water that is not used for a beneficial use. The State of Oregon does not require a primary water right to operate an existing storage facility specifically for flood control. The reservoirs in the Deschutes system may unofficially manage flood flows but the reservoirs are held within the capacity of their existing primary water storage rights and, therefore, do not require any further authorization.

12 Water Resources—Water Quality***Adequacy of Analysis*****EIS-12.1 Analysis of Water Quality Parameters**

One commenter asserted that the analysis of effects on water quality should be more robust for water quality parameters such as dissolved oxygen, pH, sedimentation, turbidity, nitrogen, phosphorus, and chlorophyll a.

Commenters

ORG-14

Response

As described in Draft EIS, Chapter 3, Section 3.3.1, *Methods (Water Quality)*, conclusions made regarding water quality are based on a combination of quantitative and qualitative methods, including RiverWare flow modeling described in Appendix 3.1-B, *RiverWare Model Technical*

Memorandum, and water quality and temperature models described in Appendix 3.4-C, *Fish and Mollusks Technical Supplement*.

Conclusions regarding the degree to which covered activities were anticipated to affect water quality were based on projected water management regimes. As described in the Draft EIS, Chapter 3, Section 3.3, *Water Quality*, quantitative predictions of water quality indicators were not possible in many cases due to the lack of adequate models and data and the highly complex water quality dynamics within the Deschutes River Basin. As such, for some parameters and waterbodies, effects on water quality were qualitatively assessed as likely trends under certain conditions (e.g., during dry years or wet years or during particular seasons), including the location, timing, and magnitude of such effects in the context of existing conditions and the no-action alternative.

EIS-12.2 Effect Thresholds Adequacy

Several commenters asserted that the effect thresholds considered in the water quality analysis and the comparison of the proposed action to degraded conditions under the no-action alternative resulted in overly positive effect conclusions. One commenter asserted that the water quality thresholds should be tied to effects on species. Commenters also expressed concern that comparing the proposed action to the no-action alternative and not considering the existing ongoing effects of the covered activities results in not addressing the effect of current activities.

Commenters

ORG-3, ORG-15

Response

NEPA requires that EISs present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by decision makers (40 CFR §§ 1502.14 and 1502.16).

As such, the EIS compares effects of the proposed action and action alternatives against the effects of taking no action, rather than against optimal environmental conditions. As described in Draft EIS Chapter 2, *Proposed Action and Alternatives*, the no-action alternative is assumed to be the continuation of existing water management operations, including those covered in the current ESA Section 7 BiOp for the Upper Deschutes River to address take of Oregon spotted frog (U.S. Fish and Wildlife Service 2017, 2019) referred to in this EIS as the *Deschutes Project BiOp*.

The EIS analyses consider an improvement in a specific environmental factor compared to the no-action alternative to be beneficial, even if the resulting resource conditions remain impaired.

Water quality thresholds were defined based on water quality standards established by ODEQ, with emphasis on standards related to listing of impaired waters under Section 303(d) of the Clean Water Act. These standards include water quality parameters that affect species as well as other water uses and benefits. Thresholds specific to species are defined in Draft EIS Chapter 3, Section 3.4, *Biological Resources*, and water quality effects on specific species were considered as part of the effects analysis for biological resources.

EIS-12.3 Effect Thresholds Application

Commenters requested a clear nexus between the thresholds and effects analysis.

Commenters

ORG-12

Response

Final EIS Chapter 3, Section 3.3, *Water Quality*, has been revised, as appropriate, to clarify connections between the effect thresholds described in Section 3.3.1, *Methods*, and the effect conclusions described in Section 3.3.3, *Environmental Consequences*.

EIS-12.4 Linking Effects Analysis to Affected Environment

Two commenters noted where additional information was needed to better connect the description of effects in the environmental consequences section to the description of existing conditions in the affected environment section.

Commenters

ORG-12, ORG-24

Response

Final EIS Chapter 3, Section 3.3, *Water Quality*, has been revised to clarify links between the affected environment and environmental consequences. Because the effects analysis considers the net change in effects compared to the no-action alternative, some factors regarding the affected environment are identified in the environmental consequences section to describe the context of the effect.

EIS-12.5 Proposed Action Effects on Odell Lake and Crane Prairie/Wickiup Reservoir

One commenter stated that potential effects of the proposed action on Odell Lake and on Crane Prairie management that may affect Wickiup Reservoir were not addressed.

Commenters

ORG-12

Response

Odell Lake is not in the study area because it does not have the potential to be affected by the proposed action or action alternatives.

Draft EIS Chapter 3, Section 3.3, *Water Quality*, describes how changes in Crane Prairie management under the proposed action could affect water quality conditions in Wickiup Reservoir (Impact WR-1, Affected Water Quality in Deschutes River Subbasin).

EIS-12.6 Proposed Action Effects on Whychus Creek, Little Deschutes River, Tumalo Creek, Crescent Lake Reservoir, and Crescent Creek

One commenter stated that effects on Whychus Creek, Little Deschutes River, Tumalo Creek, Crescent Lake Reservoir, and Crescent Creek could not be stated for the first time in the effect conclusion.

Commenters

ORG-12

Response

Effects on these water bodies are described in the first sentence of Impact WQ-1, (Affected Water Quality in Deschutes River Subbasin) in Draft EIS Chapter 3, Section 3.3, *Water Quality*. Because there would be no change to modeled flows in Whychus Creek or Tumalo Creek and only minor changes in water elevation in Crescent Lake Reservoir and associated changes in flows in Crescent Creek and the Little Deschutes River compared to the no-action alternative, these waterbodies would not experience measurable changes in water quality conditions.

EIS-12.7 Return Flows

Commenters requested additional analysis of return flows on water quality parameters and the covered species.

Commenters

ORG-14, ORG-15, GP-137

Response

While return flows (including “tailwater”) are known to contain pollutants and otherwise alter water quality, no indication of a likely significant increase in return flow water quality effects was found during the analysis of water quality effects. Final EIS Chapter 3, Section 3.3, *Water Quality*, has been revised to explain why the proposed action and action alternatives are not expected to result in a discernable change in return flows or related pollution levels.

EIS-12.8 Study Area

Commenters asserted the Draft EIS should have provided an analysis of effects on water quality in the Lower Deschutes River downstream of the Pelton Round Butte Hydroelectric Project.

Commenters

ORG-14, ORG-15, FLP-38

Response

As described in Draft EIS, Chapter 3, Section 3.3.1, *Methods (Water Quality)*, the Lower Deschutes River was not included in the study area because the changes in water operations under the proposed action and action alternatives were determined to have no potential for discernable

effects in these waters. In response to public comments, Final EIS, Chapter 3, Section 3.3.1, *Methods (Water Quality)*, has been revised to include the Lower Deschutes River in the study area, although the conclusion that effects in this reach would be not adverse remains unchanged.

Request for Additional Information or Analysis

EIS-12.9 Impacts from Maintenance Activities

One commenter recommended adding analysis of effects from maintenance of covered facilities.

Commenters

FED-1

Response

As described in Draft EIS, Chapter 2, Section 2.1.2.2, *Covered Activities*, operations and maintenance activities evaluated in the EIS focus on diversions and storage operations by applicants.

Maintenance of related facilities is not expected to result in adverse effects on the environment and, therefore, were not addressed in the Draft EIS.

Final EIS Chapter 3, Section 3.1, *Introduction*, has been revised to explain why maintenance activities are not expected to adversely affect the environment.

EIS-12.10 Magnitude of Effects of Climate Change versus Restoration

One commenter stated that the magnitude of existing water quality degradation and effects of climate change and drought versus planned projects should be clarified.

Commenters

ORG-14

Response

Final EIS Chapter 4, *Cumulative Impacts*, has been reviewed and updated as appropriate to clarify the magnitude and trend of cumulative actions and climate change.

EIS-12.11 Tribal Regulations

One commenter requested the EIS address water quality effects based on the CTWS' adopted standards because the Warm Springs Reservation is within the covered lands and waters.

Commenters

TRIBE-1

Response

The Warm Springs Reservation is located downstream of the Pelton-Round Butte Hydroelectric Project, which was excluded from the study area for water quality in the Draft EIS. This reach has

been added to the study area for the Final EIS, Chapter 3, Section 3.3, *Water Quality*. As noted in the section, it is not technically feasible to attribute water quality effects in the lower river to changes in water management operations in the Upper Deschutes and Crooked River subbasins at this time.

Request for Clarification

EIS-12.12 Water Quality Parameters of Concern in the Study Area

One commenter requested clarification about the water quality parameter information provided in the affected environment.

Commenters

ORG-12

Response

Final EIS, Chapter 3, Section 3.3, *Water Quality*, Table 3.3-1, has been revised to clarify information relevant to the water quality parameters of concern assessed in the study area.

EIS-12.13 Existing Increased Temperatures and Nutrient Discharges

One commenter requested clarification on the cause of increased temperatures and nutrient discharges discussed in Draft EIS Chapter 4, Section 4.3.2, *Water Quality*.

Commenters

ORG-12

Response

As described in Draft EIS Chapter 4, Section 4.3.2, *Water Quality*, increased river temperatures have been caused by releasing impounded waters that have been warmed by solar radiation, a decrease in summer streamflows in some river reaches resulting in longer travel times and greater solar warming, and discharge of warm irrigation return flows back to the rivers.

13 Biological Resources—Vegetation and Wildlife

Adequacy of Analysis

EIS-13.1 Effect Thresholds

One commenter stated that the Draft EIS asserts that the effects of the proposed action and alternatives would be adverse only if they result in permanent reductions in the quality and function of critical habitat.

Commenters

TRIBE-1

Response

The thresholds used in the analysis of effects on biological resources are presented in Draft EIS Chapter 3, Section 3.4.1.1, *Vegetation and Wildlife*. These effect thresholds consist of seven circumstances under which adverse effects on biological resources could occur, and are therefore not limited to a permanent reduction in the quality and function of critical habitat. Vegetation resources includes other resources than critical habitat, such as habitat for game and nongame species, and providing ecological structure and function that are important to a wide variety of species. The threshold applicable to effects on critical habitat concerns any change that would “permanently reduce the quality and function of habitats,” which includes, but is not limited to, designated **critical habitat**.

EIS-13.2 Flows for Revegetation

One commenter stated that the findings of effects on vegetation are flawed because without enforcing a summer flow cap or identifying flows necessary for revegetation, there is uncertainty whether and when revegetation will occur and whether the needs of species will be addressed. Another commenter asserted that upper Deschutes River summer flow rates under the HCP would be nearly identical to flows under the no-action alternative.

Commenters

ORG-15

Response

A summer flow cap is incorporated in the Final HCP. Refer to response to comment EIS-13.5, *Flow Analysis for Revegetation*, and EIS-3.15, *Summer Flow Cap*, for additional discussion on the addition of a summer flow cap. The projected flow changes would have varied effects on vegetation; refer to Draft EIS Chapter 3, Section 3.4, *Biological Resources*, Table 3.4-6, for an explanation of how changes under the proposed action would affect each analysis reach of the river. As stated, after year 7 of the permit term, summer flows would diminish and winter flows would increase by an appreciable amount. The vegetation analysis in Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, has been updated to reflect this.

EIS-13.3 Changes in Vegetation under the Proposed Action

One commenter asserted that the Draft EIS is incorrect in its statements that changes in vegetation under the proposed action would be minor through year 5 and increase substantially thereafter (Chapter 3, Section 3.4, *Biological Resources*, Table 3.4-6). The commenter also stated that the first 20 years of the proposed action would do little to help the vegetation regrowth needed for Oregon spotted frog habitat.

Commenters

ORG-15

Response

The methods used in the vegetation effects analysis is described in Draft EIS Chapter 3, Section 3.4.1.1, *Vegetation and Wildlife*. Briefly, that analysis relies upon hydrologic modeling (RiverWare) of stream system response to a range of historical flow data as potentially modified by management activities. The flow model, for the first 7 years of the proposed action, closely tracks recent instrumental records of flow but is not identical, thus it is reasonable to expect (refer to Final EIS Chapter 3, Section 3.4, *Biological Resources*, Table 3.4-6) possible minor changes. There have been minor changes in the past, and minor change on a short timescale is the norm. The forecast changes after year 7 are considered substantial. The full RiverWare model results, showing percentage changes in both mean and standard deviation of flow for each month, for each study reach, for each time period of flow modification, for each alternative, are available in Table 6 of Appendix 3.4-A, *Plant and Wildlife Technical Supplement*, in the Final EIS. These model outputs show that for some reaches, and for some months, changes would be quite considerable. This was interpreted, for some reaches, as potentially resulting in a vegetation change.

The Final HCP includes modifications to the proposed action to provide conservation measures (e.g., Conservation Measures CC-1 and CP-1) that could be used to adaptively manage flow to improve Oregon spotted frog habitat conditions even during the initial phase of the proposed action. The proposed action also includes a cap on summer flows in the Upper Deschutes River during years 8–30 of the permit term (per Conservation Measure WR-1 [G and H] for the proposed action). Refer to response to comments EIS-13.5, *Flow Analysis for Revegetation*, and EIS-3.15, *Summer Flow Cap*, for additional discussion on the on the addition of a summer flow cap and Oregon spotted frog habitat.

Analysis in the Draft EIS considered all reaches, all management scenarios, and all years of available flow data.

EIS-13.4 Comparison of Alternative 3 to the Proposed Action

One commenter asserted that the effects analysis pertaining to revegetation in the Upper Deschutes River channel does not accurately compare the effects of higher flows under Alternative 3 with the effects of the proposed action on the restoration of vegetation to the Upper Deschutes River channel.

Commenters

ORG-15

Response

Modeled flow values presented for the proposed action and Alternative 3 in the Draft EIS at their respective full implementation flow targets (i.e., 400 cfs and 400–500 cfs) were the same, as described in Draft EIS Chapter 3, Section 3.1, *Introduction*. Accordingly, the Draft EIS description of effects under Alternative 3 references the proposed action for impacts related to model changes in water management and focuses discussion on how impacts would differ from the proposed action in response to the accelerated implementation schedule and additional conservation measures.

With the changes to the proposed action and refinements to the RiverWare model since the Draft EIS, the modeled flow values under Alternative 3 now differ from the proposed action. The Final EIS has been updated to reflect these changes.

EIS-13.5 Flow Analysis for Revegetation

One commenter felt that the Draft EIS does not adequately analyze flow levels required to support re-emergent vegetation. The commenter points to resources supporting the idea that stabilized flows held within certain ranges of volume are an important driver of revegetation success. The commenter also requested an alternative that would support wetland and riparian revegetation of the Upper Deschutes channel.

Commenters

ORG-15

Response

The NEPA analysis relied on the best available science to consider expected changes to the system over time under the new flow regimes. Hydrologically, each of the analyzed alternatives would reduce growing season flows when compared to the no-action alternative in the Upper Deschutes reaches. This would be expected to result in changes to the distribution of wetland vegetation. For example, lower flows during the summer growing season would be expected to result in the migration of emergent vegetation downslope in the slough habitats, with the vegetation recolonizing areas to meet the new lower elevation where inundation occurs at a specific location.

In addition, the Final HCP has been updated to include a cap on summer flows in the Upper Deschutes River during years 8–30 of the permit term. Final EIS Chapter 2, *Proposed Action and Alternatives*, has been updated to reflect this change to Conservation Measure WR-1 (G and H) for the proposed action. The Final EIS analyses of the proposed action reflects this change, but this cap is expected to provide stability to summer flows in the system during the vegetation growing season which will improve habitat conditions for Oregon spotted frogs as vegetation migrates to areas along the Deschutes River and connected sloughs that would remain wetted during the growing season at lower elevations than currently observed.

Refer to response to comment EIS-14.7, *Genetic Diversity of Oregon Spotted Frog*, regarding the range of alternatives analyzed in the Draft EIS.

14 Biological Resources—Oregon Spotted Frog

Request for Additional Information or Analysis

EIS-14.1 Minimum Flows for Restoration

One commenter requested the collection of additional information on the minimum winter flows required for winter habitat and suggested that more analysis is needed to inform effective restoration.

Commenters

ORG-16

Response

The additional information requested by the commenter is outside the scope of this NEPA analysis. However, it should be noted that the Conservation Measure UD-1, Upper Deschutes River Conservation Fund, which is now included in the proposed action as well as Alternatives 3 and 4 in the Final EIS, is to be used “to improve or enhance habitat in the Upper Deschutes Basin for the Oregon spotted frog and other aquatic species, or otherwise address conditions in the Upper Deschutes Basin that affect the conservation and recovery of the Oregon spotted frog in the wild.” Therefore, funding could be allocated from Conservation Measure UD-1 to implement habitat restoration actions at specific sites to address and improve site-specific functionality during implementation of the flow regime under the proposed action.

EIS-14.2 Baseline Conditions

One commenter asserted that the analysis of effects on the Oregon spotted frog does not adequately consider ongoing conditions currently contributing to declining species population.

Commenters

ORG-15

Response

The NEPA analysis presented in the Draft EIS considered a range of alternatives, including the proposed action, in comparison to the no-action alternative. The current baseline under the no-action alternative does not constitute ideal conditions for the Oregon spotted frog and it appropriately reflects the degraded habitat conditions present in the action area. In the Final EIS, conservation measures are included in the proposed action that are intended to improve the habitat conditions from the current baseline for Oregon spotted frog. Specifically, the Final EIS includes modifications to the proposed action to provide conservation measures (e.g., Conservation Measures CC-1, CP-1, and UD-1) that could be used to improve habitat conditions even during the initial phase of the proposed action. Changes to the proposed action are detailed in Final EIS Chapter 2, Section 2.1.2.4, *Conservation Strategy*. These changes to the proposed action are analyzed in the Final EIS; effects to the Oregon spotted frog are detailed in Appendix 3.4-B, *Oregon Spotted Frog Technical Supplement*.

EIS-14.3 Temporal Analysis

One commenter asserted that the Draft EIS should provide effects analyses for impacts on the Oregon spotted frog at intermediate time intervals throughout implementation in addition to analysis of effects to the species at full implementation.

Commenters

ORG-15

Response

The Draft EIS analysis considered the time required to reach full implementation when evaluating the action alternatives against the no-action alternative. Interim effects during implementation were

described for each alternative by life history period and presented in the analysis for each reach and for selected sites in the Draft EIS technical appendix for the Oregon spotted frog (Draft EIS, Appendix 3.4-B, *Oregon Spotted Frog Technical Supplement*). Based on the results of the Draft EIS assessment, the proposed action was modified to more effectively address the impacts of the time step to full implementation, including such changes as shortening the implementation phases, and improving or adding new conservation measures to improve conditions for the Oregon spotted frog more quickly over the term of the HCP. The Final EIS includes modifications to the proposed action to provide conservation measures (e.g., Conservation Measures CC-1, CP-1, and UD-1) that could be used to improve habitat conditions even during the initial phase of the proposed action. Changes to the proposed action are detailed in Final EIS Chapter 2, Section 2.1.2.4, *Conservation Strategy*. These changes to the proposed action are analyzed in the Final EIS; effects to the Oregon spotted frog are detailed in Appendix 3.4-B, *Oregon Spotted Frog Technical Supplement*.

EIS-14.4 Effects on Wickiup Reservoir

One commenter asserted that an analysis of impacts on Wickiup summer habitat during multiple time frames throughout implementation should be included in the effects analysis, as opposed to only including effects at full implementation. The commenter also stated that there are not sufficient data for the specific effects on Wickiup Reservoir.

Commenters

ORG-14

Response

Although Oregon spotted frogs are occasionally found within Wickiup Reservoir and it is designated **critical habitat**, there is a limited ability to support and sustain spotted frog populations within the reservoir due to the abrupt and extreme changes in water level resulting from water releases for irrigation. Storage releases from Wickiup Reservoir are essential to maintaining the viability and distribution of several Oregon spotted frog populations along the Deschutes River between the reservoir dam and Bend, OR. Wickiup Reservoir is not anticipated to provide significant habitat for the spotted frog in the future under any of the alternatives considered. For these reasons, Wickiup Reservoir ranks low as a conservation priority for Oregon spotted frog.

Draft EIS Appendix 3.4-B, *Oregon Spotted Frog Technical Supplement* does not include a box plot representation of the results for Wickiup Reservoir, as in other reaches, because the analysis for reservoir impacts was based on differences in water storage elevation and volume forecast by the RiverWare modeling rather than the number of days when a threshold flow was achieved. Tables 6 and 7 in Appendix 3.4-B of the Draft EIS present the results of the comparative analysis for Wickiup.

The analysis of effects to frog habitat during each life history period is provided for the Wickiup reach in Appendix 3.4-B of the Draft EIS. The analysis also considered the time required to reach full implementation when evaluating the alternatives against the no-action alternative (Appendix 3.4-B). The Final EIS Appendix 3.4-B provides detail on the interim timesteps of the proposed action and Alternatives 3 and 4 with the comparison among the alternatives at intermediate time steps depicted in Figure 4; however, because of its intended role as a flow regulator, interim effects on frog habitat within the reservoir itself are not considered in detail in the Final EIS.

EIS-14.5 Effects of Flow Patterns on Oregon Spotted Frog

One commenter asserts that the analysis requires additional discussion and analysis of the effects of flow patterns on the Oregon spotted frog at various stages of the life cycle.

Commenters

ORG-15

Response

The Oregon spotted frog effects analysis is based on comparing the action alternatives to the no-action alternative using known inundation (or other) thresholds that correspond to habitat functionality during each life history period. These thresholds allow FWS to make the link between the RiverWare model outputs and functionality of habitat. Methods for analysis are described in the Draft EIS starting in Chapter 3, Section 3.4.1.2, *Oregon Spotted Frog*, and are updated in the Final EIS in Chapter 3, Section 3.4.1.2.

EIS-14.6 Additional Parameters for Effects Analysis

One commenter suggests that a more comprehensive assessment of life history impacts is necessary to determine effects to the Oregon spotted frog.

Commenters

ORG-15

Response

The effects analysis presented in the Draft EIS focused on physical characteristics of the system that are indicative of habitat quality for Oregon spotted frog (e.g. flows known to inundate wetland vegetation). This level of analysis was sufficient to inform decision makers about reasonable measures that could improve the proposed action and to advance NEPA's purpose of ensuring informed and transparent environmental decision making. The Final EIS (Section 3.4.3, *Environmental Consequences*) presents an updated analysis of the alternatives, including several improvements made to the proposed action based on the results of the analysis presented in the Draft EIS. The results of the Oregon spotted frog are detailed in Final EIS Appendix 3.4-B, *Oregon Spotted Frog Technical Supplement*.

EIS-14.7 Genetic Diversity of Oregon Spotted Frog

One commenter asserts that the Oregon spotted frog's low genetic diversity necessitates facilitation of a wider range for the species to populate. The commenter states that the Draft EIS does not adequately discuss this parameter in its analysis.

Commenters

ORG-15

Response

The Draft EIS analyzed a range of alternatives that were screened for their potential ability to meet the need and purpose for the action. The Draft EIS also includes a discussion of alternatives that were considered but not analyzed in detail. FWS determined that the range of alternatives analyzed in the Draft EIS was appropriate and sufficient to inform decision makers about reasonable measures that could improve the proposed action and to advance NEPA's purpose of ensuring informed and transparent environmental decision making. The proposed action and alternatives do take into consideration improving Oregon spotted frog genetic diversity in the Upper Deschutes River because improved genetic diversity would be expected to result from improved habitat conditions and in particular, greater connectivity. The proposed action, in the long term, is likely to improve connectivity between populations of Oregon spotted frog. The *Oregon Spotted Frog Recovery Plan and Implementation Strategy*, which are currently being developed by FWS, will further explore this issue. It should be noted that with Conservation Measure UD-1, which is now included in the proposed action, funding could be allocated from Conservation Measure UD-1 to fill data gaps regarding genetic challenges to the species.

General Comments on Alternatives Analyzed

EIS-14.8 Comparison of Current Condition with Proposed Action

One commenter indicates that the Draft EIS should include a comparison of flows under the current conditions with flows under the proposed action.

Commenters

ORG-15

Response

The no-action alternative is defined in Draft EIS Chapter 2, Section 2.1.1, as required by the Council on Environmental Quality regulations (40 CFR § 1502.14). The no-action alternative defines the future circumstances that are predicted to continue or occur without the proposed action and assumes the continuation of the existing management plan or program, such as the actions analyzed in the Deschutes Project BiOp (U.S. Fish and Wildlife Service 2017, 2019). The no-action alternative is, therefore, the condition against which the proposed action and alternatives are judged. Refer to response to comment EIS-3.2, *Baselines*, for additional discussion on the comparison of the action alternatives with the no-action alternative.

Adverse Effect Threshold

EIS-14.9 Effect Thresholds

One commenter states that population decline is an inappropriate threshold for determining adverse effects and that even if populations/range are held steady, the effect would be adverse because of an increased risk of extirpation over time.

Commenters

ORG-15

Response

The NEPA thresholds were developed based on current understanding of the system and the best available data. The HCP monitoring program and associated adaptive management actions would be expected to provide the permittee and FWS with a capability to respond to an increase in the risk of extirpation.

EIS-14.10 Baseline

One commenter requests a comparison between the alternatives and a baseline of ideal habitat conditions for Oregon spotted frog.

Commenters

ORG-15

Response

Refer to response to comment EIS-3.2, *Baselines*, for additional discussion on the comparison of the action alternatives with the no-action alternative. The no-action alternative defines the future circumstances that are predicted to continue or occur without the proposed action and assumes the continuation of the existing management plan or program, such as the actions analyzed in the Deschutes Project BiOp. The no-action alternative also includes continuation of detrimental conditions. Effects, including those resulting from ongoing detrimental conditions, are contemplated in the Final EIS analysis and are included in the effects conclusions for Oregon spotted frog (refer to Final EIS Chapter 3 Section 3.4.3, *Environmental Consequences*).

Accuracy of Effects Analysis**EIS-14.11 Conservation Fund Triggers**

One commenter asserts that the HCP-proposed monitoring program (HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*) will be insufficient to track changes in the Oregon spotted frog populations and would be an ineffective trigger for using the Conservation Fund (Conservation Measure UD-1) funds to maintain the population.

Commenters

ORG-15

Response

The NEPA analysis did not consider the specific actions that would be used to recover the species. Conservation Measure DR-2, Upper Deschutes River Conservation Fund, is now referred to as Conservation Measure UD-1 in the Final HCP and Final EIS. This Conservation Fund would be used to support restoration and habitat maintenance and improvement activities to benefit the Oregon spotted frog and other aquatic species within the Upper Deschutes Basin. The funds could be used to address conditions that affect the conservation and recovery of Oregon spotted frogs, such as actions to respond to monitoring data that indicate a negative trend in population size.

HCP effectiveness monitoring, detailed in Final Deschutes Basin HCP, Chapter 7, *Monitoring, Reporting, and Adaptive Management*, is part of the proposed action, but the monitoring program itself was not specifically assessed as part of this NEPA process. Please refer to Final HCP Chapter 7, *Monitoring, Reporting and Adaptive Management*, for more details. All action alternatives have access to the Conservation Fund provided under Conservation Measure UD-1 and FWS will have control over how those funds are used to affect the recovery and conservation of Oregon spotted frogs.

EIS-14.12 Importance of Effects on Rearing

One commenter states that impacts on rearing habitat are less important to species success than impacts on breeding and overwintering habitat. The commenter also suggested the implementation of a cap on summer flows.

Commenters

ORG-15

Response

The Final EIS recognizes the relative importance of breeding and overwintering habitat when compared to rearing habitat in the “Comparing the Alternatives” section of Appendix 3.4-B.

Refer to EIS-3.15, *Summer Flow Cap*, for additional discussion on implementation of a cap on summer flows.

EIS-14.13 Effects of the Proposed Action

One commenter asserted that the characteristics of the proposed action, and in particular the management of flows under 900 cfs in the upper reaches of the Deschutes River, would result in continued habitat destruction and heightened vulnerability of the Oregon spotted frog.

Commenters

ORG-15

Response

The NEPA analysis is not focused on ongoing take of the species or species recovery, but rather an assessment of the proposed action and other reasonable alternatives as compared to the no-action alternative. The alternative selection process is described in the Draft EIS, Chapter 2, *Proposed Action and Alternatives*, which explains how FWS arrived at the three action alternatives advanced for comparison to the no-action alternative. FWS will prepare a BiOp that will assess any take of the species expected to occur under the alternative that is selected at the end of this process.

The 900 cfs threshold for wetland vegetation inundation is based on observations made by FWS under recent conditions in the Upper Deschutes River downstream of the WICO gauge. Although that threshold, as well as others used for reaches lower in the system, is helpful when assessing impacts on the current condition of habitat in the reaches, it is based on the current flow regime, and is not intended as a future flow target. Final EIS Appendix 3.4-B considers this to be a dynamic system and over the long term the proposed action is likely to result in a lower flow threshold to

support wetland vegetation, This is because wetland vegetation is expected to react to lower flows by migrating down-elevation topographically where site conditions would support establishment in the channel sloughs. Furthermore, the proposed action includes Conservation Measure UD-1, which is intended to address river and habitat degradation that may influence Oregon spotted frog population viability. The Final EIS also considers the potentially negative effects to Oregon spotted frogs resulting from a lack of flows sufficient to inundate wetland vegetation (e.g., increased predation, egg mass stranding).

15 Biological Resources—Fish and Mollusks

Adequacy of Analysis

EIS-15.1 Water Quality Effects on Fish

One commenter asserted that the Draft EIS should have considered water quality effects on fish beyond temperature, including algae, chlorophyll, pH, and dissolved oxygen.

Commenters

ORG-3, ORG-14

Response

Final EIS Chapter 3, Section, 3.4.3 *Environmental Consequences Fish and Mollusks*, has been reviewed and revised as necessary to include water quality impacts related to algae, chlorophyll, pH, and dissolved oxygen that could affect fish habitats under the proposed action and alternatives. Water temperature modeling was available for much of the Crooked River and was used to evaluate impacts in that portion of the study area.

EIS-15.2 Effect of Conservation Measure CR-6

One commenter asserted that a stated benefit of the proposed action is already provided by ongoing efforts to protect water rights and maintain flow.

Commenters

ORG-10

Response

Draft EIS Chapter 2, Table 2-4, *Proposed Action Conservation Measures, Conservation Measure CR-6*, describes terms and conditions for implementing the North Unit ID-Deschutes River Conservancy Agreement under the HCP. The effects of implementing these terms and conditions—both beneficial and adverse—are considered as effects resulting from the proposed action, even though they are based on previous agreements.

As stated in Draft EIS Chapter 3, Section, 3.4.3, *Environmental Consequences Fish and Mollusks*, the commitment to maintain minimum flows below the North Unit ID pump between the North Unit ID and the Deschutes River Conservancy is voluntary. While both parties have every intention of continuing the agreement into the foreseeable future, incorporation of the agreement into the HCP

and Conservation Measure CR-6 will provide the added assurance that flow improvements that have been in place since 2012 will continue for the term of the Deschutes Basin HCP. Final EIS Chapter 3, Section, 3.4.3, *Environmental Consequences Fish and Mollusks*, has been revised to clarify that Conservation Measure CR-6 provides added assurance for this commitment.

EIS-15.3 Effects on Bull Trout

One commenter asserted that the Draft EIS did not adequately identify the effects of the proposed action on bull trout (*Salvelinus confluentus*), noting the species' narrow habitat requirements and the lack of existing resources allotted to this species, and that the basis for the overall effect conclusion was unclear.

Commenters

ORG-14

Response

Draft EIS Chapter 3, Section 3.4.3, *Environmental Consequences Fish and Mollusks*, included an analysis of streamflow by reach and effects on bull trout habitat. A detailed water temperature model was available for the Crooked River, which was used to evaluate narrow water temperature requirements of bull trout in that portion of the study area. The Draft EIS reported an adverse effect of water management on water temperatures and bull trout life stage requirements in the Crooked River in some years depending on water management.

The analysis concluded an overall not adverse effect because effects in the Crooked River were weighed against a mixture of effects for the reaches used by bull trout in the study area. That included reaches in the Lower Deschutes River, Middle Deschutes River, Lake Billy Chinook, Whychus Creek, and Lower Crooked River downstream of approximately river mile (RM) 7.0. Effects in these areas were either beneficial or no effect.

Final EIS Chapter 3, Section, 3.4.3 *Environmental Consequences Fish and Mollusks*, and Appendix 3.4-C was reviewed and revised to further clarify the basis for the overall conclusions.

EIS-15.4 Effects of Climate Change

One commenter stated that the Draft EIS does not sufficiently support its conclusions that impacts of the proposed action on fish would not be adverse in light of climate change effects.

Commenters

ORG-14

Response

Draft EIS Chapter 3, Section 3.4.3.1, *Alternative 1: No Action*, explains the impacts of climate changes on fish. Draft EIS Chapter 4, *Cumulative Impacts*, considers the potential for the proposed action and action alternatives to have the potential for adverse effects on fish when considered in the context of climate change. The analysis in Final EIS Chapter 4, *Cumulative Impacts*, concludes that reasonably foreseeable climate changes could result in cumulative adverse effects on the quality, quantity, and distribution of riparian and aquatic habitats in the study area causing reduced abundance,

productivity, and distribution of fish and mollusk species under the proposed action and action alternatives. Final EIS Chapter 4, *Cumulative Impacts*, has been revised to further explain the impacts of climate change on fish habitats across the study area.

EIS-15.5 Effects of Conservation Measure CR-4

One commenter asserted that the Draft EIS assumed benefits on streamflows and habitats related to Conservation Measure CR-4.

Commenters

ORG-15

Response

The Crooked River Fund (Conservation Measure CR-4) was considered a contributing factor, but was not a determining factor for the effect determination. The measure provides \$8,000 annually for the Crooked River Conservation Fund to support conservation measures and benefit covered species in the Crooked River subbasin. This may include temporary instream water purchases to support targeted species and life stages in years when conditions may be adverse.

EIS-15.6 Effects in Crooked River Reach from Ochoco ID Pumps to North Unit ID Pumps

One commenter asserted that the analysis of effects on fish should have more thoroughly addressed the Crooked River reach from Ochoco ID pumps to North Unit ID pumps, given its tendency for low summer flows and importance to fish species.

Commenters

ORG-15

Response

The portion of Crooked River between the Ochoco ID diversion at RM 55.9 and the North Unit ID pump diversion at RM 22.4 includes reaches Cro-9 through Cro-3. Water temperature predictions were analyzed for each of these reaches with respect to species and life stage requirements and are detailed in Draft EIS Appendix 3.4-C, *Fish/Mollusks Technical Supplement*. Effects of the proposed action and Alternatives 3 and 4 on streamflows and fish habitat were analyzed based on the CAPO RiverWare node at RM 46.7. Water management under the proposed action and action alternatives could have an adverse effect on habitat conditions in the upper portion of this reach as described in the Draft EIS Appendix 3.4-C, *Fish/Mollusks Technical Supplement*. The lower reaches are warm during the summer under the no-action alternative and conditions do not change substantially under the proposed action. Protection of fish and wildlife releases under Alternatives 3 and 4 would benefit habitats in the Crooked River.

Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, has been reviewed to clarify, as needed, effects and benefits of measures in the Crooked River between the Ochoco Diversion on the Crooked River (Crooked River Diversion Dam at RM 55.9) and the North Unit ID pump diversion at RM 22.4.

EIS-15.7 Consistency of Effects Determinations

One commenter asserted that Draft EIS Chapter 3, Section 3.4, *Biological Resources, Fish/Mollusks*, makes conflicting statements regarding effects on Crooked River flows.

Commenters

ORG-15

Response

The commenter refers to conclusions for the no-action alternative and improvements to streamflows described in the Crooked River Collaborative Water Security and Jobs Act of 2014 (Crooked River Act). This conclusion was made relative to conditions prior to implementation of existing water management rules and agreed minimum streamflow requirements on the Crooked River. The overall effect conclusion in the Final EIS, Chapter 3, Section 3.4.3.1, *Alternative 1: No Action*, has been revised to remove conflicting statements and acknowledge the benefits of implementation water management agreements.

EIS-15.8 Monitoring and Adaptive Management for Fish

One commenter asserted that the Draft EIS provided no details on monitoring and adaptive management for fish.

Commenters

ORG-22

Response

The commenter is correct that the Draft EIS did not provide details on monitoring and adaptive management for fish. This information is not included in the Draft EIS as the Draft HCP only includes compliance monitoring for covered fish species. In contrast to compliance monitoring, effectiveness monitoring and adaptive management are not appropriate or required for every conservation measure. The applicants, with input from the Services, have determined that effectiveness monitoring and adaptive management measures are not necessary for those conservation measures where their effectiveness is not scientifically uncertain and where adaptive management would not be useful or appropriate to respond to scientific uncertainty.

In lieu of adaptive management for steelhead, the Final HCP includes a changed circumstances provision that will be triggered in the event that the HCP's biological objectives for Whyhous Creek are not met.

EIS-15.9 Effects of North Unit ID Pumping on Streamflows

One commenter asserted that statements in the Draft EIS that increased pumping by North Unit ID would decrease flows below the pumps from May through October conflict with statements that North Unit ID will use their 10,000 af of rental water early in the season under the proposed action and action alternatives.

Commenters

ORG-15

Response

Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, has been revised to clarify when North Unit ID pumps may affect flows downstream of the North Unit ID pump diversion. The North Unit ID pump diversion may divert live streamflows in addition to the 10,000 af of rental water requested by the North Unit ID from Prineville Reservoir, as described in Appendix 3.1-B, *RiverWare Model Technical Memorandum* (Section 2.3). RiverWare modeling of shortages in deliveries from the Upper Deschutes under the proposed action show that North Unit ID would divert more water from the Crooked River under the proposed action alternative compared to the no-action alternative. This scenario would result in decreased streamflows between the North Unit ID pump diversion and Osborne Canyon compared to the no-action alternative.

EIS-15.10 Importance of Summer Flows

One commenter stated that the Draft EIS did not acknowledge the importance of increased summer flows on the Crooked River or that uncontracted water released for fish in the summer under the proposed action would not be protected by secondary water rights.

Commenters

ORG-15

Response

The analysis examined differences in streamflow between the no-action alternative and proposed action. Draft EIS Chapter 3, Section 3.4.3, *Environmental Consequences Fish and Mollusks*, summarized months and reaches when the proposed action resulted in lower summer flows affecting fish habitat. The analysis of water temperature conditions in the Crooked River also accounted for effects of reduced summer streamflows on water temperature thresholds for fish species and life stages. Alternatives 3 and 4 include protection of release of uncontracted water for fish. Although, uncontracted release was not explicitly analyzed for habitat or water temperatures because such releases would be based on an annual decision, the analysis did consider qualitatively benefits of protection of uncontracted releases. In particular, downstream of the North Unit ID pump diversion.

Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences Fish and Mollusks*, was reviewed and revised as necessary to clarify the importance of summer flows to fish species, including within the Crooked River.

Request for Additional Information or Analysis**EIS-15.11 Middle Columbia River Steelhead Reintroduction and Opal Springs Dam Fish Passage**

One commenter asserted that recent progress in Middle Columbia River Steelhead (*Oncorhynchus mykiss*) recovery, the Pelton Round Butte Hydroelectric Project Federal Energy Regulatory

Commission license requirements and the state and local plans and policies should be considered in the baseline information used to support the effects analysis in the Draft EIS.

Commenters

TRIBE-1, ORG-24

Response

Draft EIS Chapter 3, Section 3.4.3.1, *Alternative 1: No Action*, acknowledges past and ongoing actions to support reintroduction through habitat enhancement projects and fish passage at Opal Springs Dam. Final HCP Section 5.2, *Steelhead Trout*, and Section 5.3, *Chinook Salmon*, contain a summary of ongoing reintroduction efforts to establish salmon and steelhead populations upstream of the Pelton-Round Butte complex for these species.

Final EIS Chapter 3, Sections, 3.4.2 *Affected Environment*, and 3.4.3.1, *Alternative 1: No Action*, have been updated to acknowledge reintroduction of species in the Upper Deschutes Basin and recent achievement of volitional fish passage at Opal Springs in the species baseline. The Final EIS has also been revised to describe how habitat restoration and water management could support reintroduction.

EIS-15.12 Effect on Middle Columbia River Steelhead Recovery

Commenters stated that the Draft EIS does not adequately assess the proposed action's impact on Middle Columbia River steelhead recovery, which is being facilitated by a reintroduction program or that the Middle Columbia River's status, as a nonessential experimental population, expires prior to the expiration of the proposed 30-year term of the ITPs.

Commenters

TRIBE-1, ORG-24

Response

The intent of the EIS is to compare effects on fish, including Middle Columbia River steelhead, under the proposed action compared to the no-action alternative. Steelhead recovery is therefore an ongoing action under all alternatives.

While reintroduction is a significant recovery effort, it is not considered to be key to whether recovery can be achieved for the Middle Columbia River steelhead Distinct Population Segment (DPS). Successful implementation of restoration efforts across all major population groups in the DPS could reduce risks and improve viability leading to recovery determination even if reintroduction does not occur above the Pelton Round Butte Project, thus its designation as a non-essential population. The designation will end in 2025, at which time steelhead populations above the Pelton-Round Butte complex will be covered by the same Endangered Species Act (ESA) protections as other populations in the Middle Columbia River DPS.

EIS-15.13 Baseline Data and Threshold Criteria Identified in Plans, Policies, and Regulations

One commenter asserted that the description of the affected environment for fish was not adequate to support the analysis of effects. The commenter identified additional areas of baseline data and information for fish that they thought should have been included, based on existing plans, policies, and regulations. The commenter also stated that the effect analysis should have considered additional threshold criteria from existing plans, policies, and regulations.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.4, *Biological Resources*, refers to Appendix 3.4-C, *Fish and Mollusks Technical Supplement*, for a description of the extent and life history of each fish and mollusk species and the Deschutes Basin HCP Chapter 5, *Covered Species*, for additional covered species baseline information. Additional references were reviewed regarding relevance to baseline condition and have been added to Final EIS Chapter 3, Section, 3.4.3 *Environmental Consequences Fish and Mollusks*.

Conditions for determining effects in the Draft EIS Chapter 3, Section 3.4.1., *Methods (Fish and Mollusks)*, were developed to enable the evaluation of effects of water management on fish and mollusk habitats and effects on populations. The use of additional threshold criteria from existing plans, policies, and regulations is not always appropriate as they would either evaluate effects against recovery criteria, which is not the purpose of the EIS, or evaluate conditions for policies not relevant to the HCP, such as Magnuson-Stevens Act essential fish habitat. Where appropriate, Final EIS Chapter 3, Section 3.4.1., *Methods (Fish and Mollusks)*, has been reviewed and revised to include consideration of applicable state and federal and regional plans and policies, as requested by the commenter, for the baseline and conditions for evaluating the alternatives.

EIS-15.14 Additional information

One commenter asserted that the Draft EIS does not adequately discuss past impacts on fish species from dams and altered flows and temperature regimes. The commenter suggested that additional variables should be considered in the effects analysis.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section, 3.4.3 *Environmental Consequences*, describes effects of the proposed action and action alternatives on fish species compared to the no-action alternative.

The no-action alternative defines the future circumstances that are predicted to continue to occur without the proposed action and assumes the continuation of the existing management plan or program, as analyzed in the current ESA Section 7 BiOp (U.S. Fish and Wildlife Service 2017, 2019).

The no-action alternative is, therefore, the condition against which the proposed action and alternatives are judged. The HCP considers the historical and current conditions of covered, land, waters and species and their habitat in establishing a baseline against which the effects of the proposed action are compared. Please refer to response to comment EIS-3.2, *Baselines*, for additional information.

The focus is on effects that can be shown to be caused by water management under the proposed action, rather than an analysis of all stressors faced by fish species from past and current activities.

As described in the Draft EIS Chapter 1, Section 1.1. *Introduction*, the Services will each independently prepare an ESA Section 7 BiOp on the proposed ITP actions prior to issuing separate RODs. The BiOps will evaluate the environmental baseline and the condition of the listed species or its designated critical habitat in the action area. The BiOps will be completed following publication of the Final EIS but prior to completion of the RODs, and will be incorporated into the RODs.

EIS-15.15 Reliance on RiverWare Model

One commenter asserted that the Draft EIS fish analysis relied entirely on the RiverWare model results and not previous studies that have documented impacts of changes in river hydrology and how it has impacted covered and listed species.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.4, *Biological Resources*, evaluated changes in the seasonal timing and amount of flows as the primary pathway by which the proposed action and action alternatives may affect fish and mollusk habitats compared to the no-action alternative.

The no-action alternative defines the future circumstances that are predicted to continue to occur without the proposed action and assumes the continuation of the existing management plan or program, such as the actions analyzed in the current BiOps for the Deschutes River Basin Projects (NMFS 2005 and U.S. Fish and Wildlife Service 2017, 2019). The no-action alternative is, therefore, the condition against which the proposed action and alternatives are judged. The HCP considers the historical and current conditions of covered, land, waters and species and their habitat in establishing a baseline against which the effects of the proposed action are compared. Please refer to response to comment EIS-3.2, *Baselines*, for additional information.

As described in Draft EIS Chapter 3, Section 3.4.1, *Methods (Fish and Mollusks)*, the RiverWare model outputs for timing and amount of flows by reach, and reservoir volume and elevation were used to assess environmental conditions relevant to habitat requirements of fish and mollusk species and life stages. Changes in amount of streamflow and timing by reach influences habitat availability, habitat connectivity, and water quality attributes affecting species survival. RiverWare results provided the basis for comparison and evaluating how the proposed action and action alternatives may affect these attributes for fish and mollusks.

EIS-15.16 Effects on Steelhead versus Effects on Reintroduction

One commenter asserted that the Draft EIS is contradictory because the effect conclusion for Impact TR- 2 (Affect Reintroduction of Salmon and Steelhead into Habitats Upstream of the Pelton-Round Butte Complex) and Impact BIO-6 (Affect Steelhead Trout Habitat) are not the same.

Commenters

ORG-12

Response

Effect conclusions for TR-2 and BIO-6 should not be directly compared, as Draft EIS Chapter 3, Section 3.8, *Tribal Resources*, describes TR-2: *Affect Reintroduction of Salmon and Steelhead into Habitats Upstream of the Pelton-Round Butte Complex* as evaluating effects of the proposed action and action alternatives on habitat requirements for reintroduced fish species and effects on reintroduction. The Crooked River is a key watershed for reintroduction of steelhead and water management effects may impede reintroduction with adverse conditions in some years as discussed in the EIS. While BIO-6 in Draft EIS Chapter 3, Section 3.4, *Biological Resources*, evaluates steelhead habitat across the entire study area (i.e., habitats upstream of Pelton-Round Butte and Lower Deschutes River). The conclusions drawn are different; while BIO-6 describes adverse effects on habitat in the Crooked River, it weighs this effect across the entire study area and a mixture of beneficial and no effect conclusions leading to an overall conclusion of not adverse.

EIS-15.17 Steelhead Recovery Plan

One commenter asserted that the discussion of effects on fish should incorporate the guidance included in the *Mid-Columbia Steelhead Recovery Plan*.

Commenters

TRIBE-1, ORG-12

Response

The *Mid-Columbia Steelhead Recovery Plan* is described in Draft EIS Appendix 3.4-C, *Fish/Mollusks Technical Supplement*. Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, has been reviewed and revised to reference the *Mid-Columbia Steelhead Recovery Plan* tributary management strategies and actions.

Please refer to response to comment EIS-15.12, *Effect on Middle Columbia River Steelhead Recovery*, for additional information on how the relationship of reintroduction to recovery of Middle Columbia River steelhead has been assessed.

EIS-15.18 Effects of Canal Piping

One commenter asserted that the EIS should include an analysis of the effects of planned district canal piping projects on coldwater refugia for fish in the Middle Deschutes River.

Commenters

ORG-12

Response

Effects of future piping projects on groundwater and coldwater refugia springs are described in Draft EIS Chapter 4, *Cumulative Impacts*.

EIS-15.19 Water Quality Effects from Return Flows

One commenter asserted that the Draft EIS does not adequately analyze the water quality effects of return flows under the proposed action on steelhead in the Crooked River and Trout Creek and that the basis for the overall effect conclusion was unclear.

Commenters

ORG-14

Response

The applicants' control related to return flows is limited to storage, releases, and diversions and associated effects on temperature, surface water elevations, and stream flows. The applicants have revised the Final HCP and associated request for ITP coverage to address incidental take only from those known water quality impacts under the applicants' jurisdiction (temperature, surface water elevations, and rates and volumes of stream flows). The conservation strategy in the Final Deschutes Basin HCP defers to jurisdictional authority of the ODEQ for the management and regulation of water quality discharges from return flows, tail water, and effluent releases throughout the Deschutes Basin.

For agricultural pollutants, the source and quantities of such pollutants are the product of a complex array of factors and actions by others that are outside the jurisdiction and control of the applicants, including operational decisions made by individual agricultural operators. The proposed action would not create additional pesticide sources, pathways or otherwise alter the occurrence of pesticides. As described in Deschutes Basin HCP Chapter 3, *Scope of the DBHCP*, flow and diversion rate changes on the Crooked River—the primary surface water with notable issues related to return flows—are not expected to significantly change under any of the alternatives.

For effluent discharges, the proposed action would have no effect on discharges from the City of Prineville's wastewater treatment facility. Wastewater effluent pollutants are managed under an NPDES permit that is independent from the proposed action. As described in the HCP and in Final EIS, Chapter 3, Section 3.3, *Water Quality*, the existing NPDES permit is adequately addressing biological effects and no further mitigation or modification of alternatives is required. In addition, as noted, the applicants have revised their request for ITP coverage to include only those water quality effects of the covered activities related to temperature, surface water elevations, and rates and volumes of stream flows

In line with this the Draft EIS did not analyze water quality within return flows, tail water and effluent releases because water quality impacts from these sources are outside the jurisdiction and control of the applicants. Based on the HCP, the applicants have no means to control many sources of water quality impairments throughout the basin, including sources of pollutants from return

flows, tail water, and effluent releases. Effects on water quality, and associated biological resources due to changes in temperature, surface water elevations, and stream flows, which the applicants do have control of, are discussed in Final EIS, Chapter 3, Sections 3.2, *Water Resources*, 3.3 *Water Quality*, and 3.4 *Biological Resources*.

EIS-15.20 Climate Change Effects on Steelhead

One commenter asserted that the Draft EIS does not adequately account for climate change impacts on steelhead given that they rear in freshwater for longer periods.

Commenters

ORG-14

Response

Draft EIS Chapter 4, *Cumulative Impacts*, included a discussion of the potential effects of the proposed action and action alternatives on fish species when considered in the context of climate change and cumulative actions. Final EIS Chapter 4, Section 4.3.3, *Biological Resources*, has been revised to expand discussion of climate change specific to fish species.

EIS-15.21 Effect Conclusions

Commenters asserted that the basis or threshold criteria for the overall effect conclusion for fish, including steelhead and spring Chinook, were unclear in the Draft EIS.

Commenters

ORG-12, ORG-14

Response

Overall effect conclusions for fish were based on life stages affected, the magnitude of effect, and amount of affected habitat used by the species in the study area. The study area for steelhead and spring Chinook includes the Deschutes River downstream of the Pelton-Round Butte Complex and portions of the upper Deschutes Basin available to these species. Crooked River adverse effects are limited to summer months affecting juvenile life stages for both species, adult migration and holding for spring Chinook, and limited to water management in a subset of years. A not adverse conclusion for BIO-4 through BIO-9 reflect adverse effects in the Crooked River, but a majority of the habitat used by the species was either no effect or a beneficial effect.

Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, has been revised to provide clarity, where required, that an overall conclusion of not adverse is based on weighing a mixture of beneficial effect, no effect, or adverse effect on steelhead and spring Chinook habitat across the entire study area.

EIS-15.22 Mitigation for Redband Trout

One commenter asserted that the Draft EIS should have identified mitigation for adverse effects on redband trout (*Oncorhynchus mykiss gairdneri*).

Commenters

ORG-14

Response

Refer to response to comment EIS-3.10, *Mitigation Measures*, regarding inclusion of mitigation measures in the EIS.

The Draft EIS evaluated a set of conditions based on streamflows and reservoir elevations predicted by the RiverWare model. The effects analysis for the Final EIS has been revised based on an updated RiverWare model. The updated model includes refinements in response to public comments to better reflect water management. Further information on the refinements made are provided in Appendix 3.1-B, *RiverWare Model Technical Memorandum*

A rule adjustment has been made in the Final EIS RiverWare analysis to better represent North Unit ID Deschutes River demand in dry years. This rule looks at Wickiup Reservoir storage on April 1, which is the estimated date the reservoir would be full, and reduces North Unit ID's demand from the Deschutes River. The effect of this adjustment resulted in the elimination of large fluctuations in spring streamflows when stored supply cannot meet irrigation demand. Based on the updated analysis presented in Final EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, impacts of the proposed action and action alternatives on redband trout in the Upper Deschutes River would be beneficial. Adverse effects are, however, described for Wickiup Reservoir and Crooked River under the proposed alternative and action alternatives.

EIS-15.23 Protection of Flows on the Crooked–Other Crooked River Diverters

One commenter asserted that the effects analysis does not adequately analyze the effects on fish species of instream flow protection proposed in Alternatives 3 and 4. The commenter asserted that instream flow protection would result in a beneficial impact on fish species.

Commenters

ORG-15

Response

Draft EIS Chapter 3, Sections 3.4.3.3, *Alternative 3: Enhanced Variable Streamflow*, and 3.4.3.4, *Alternative 4: Enhanced and Accelerated Variable Streamflow*, acknowledge and discuss the benefits of instream protection of uncontracted fish and wildlife releases from Bowman Dam to Lake Billy Chinook under Alternatives 3 and 4. This benefit means adverse effects discussed in detail for the proposed action (Draft EIS Chapter 3, Section 3.4, *Biological Resources*, Section 3.4.3.2, *Alternative 2: Proposed Action*) would not be as severe. However, timing of irrigation season release of North Unit ID rental storage for the North Unit ID diversion at RM 22.4 has a substantial impact on water temperatures in the Crooked River. As discussed in Section 3.4.3.2, *Alternative 2: Proposed Action*, and in Appendix 3.4-C, *Fish and Mollusks Technical Supplement*, shifts in timing of this release that would typically occur mid- to late summer may occur in May and June under the proposed action and action alternatives, resulting in longer periods of warm water in July and August compared to the no-action alternative. Analysis overall concluded an adverse finding for fish habitat on the Crooked River.

Final EIS Chapter 3, Section, 3.4.3 *Environmental Consequences Fish and Mollusks*, has been reviewed and revised as necessary to clarify this finding.

EIS-15.24 Temperature and Flow Benefits of Restoration

One commenter requested that the EIS describe specifics on the locations of wetland and riparian shade restoration projects and estimate the temperature and flow benefits of these projects.

Commenters

STATE-4

Response

Wetland and riparian restoration is acknowledged in the qualitative assessment of cumulative impacts for fish. Restoration projects considered reasonably foreseeable and analyzed in Draft EIS Chapter 4, *Cumulative Impacts*, are described in Appendix 2-B, *No-Action and Cumulative Action Scenarios*. The benefits of wetland and riparian restoration on temperature and streamflows discussed in Draft EIS Chapter 4, *Cumulative Impacts*, could not be quantified because locations and extent of these activities were uncertain.

EIS-15.25 Identification of Flows and Habitat Needed to Restore Covered Fish Species

One commenter asserted that the Draft EIS did not assess harm to or take of the covered species (i.e., habitat loss/degradation) from implementation of proposed action and did not identify flows and habitat needed to restore the species.

Commenters

ORG-12, ORG-24

Response

The Deschutes Basin HCP is designed to minimize and mitigate the impacts of take caused by the operational activities (covered activities) of eight irrigation districts and the City of Prineville (the applicants). The covered activities modify the timing and magnitude of flow in the Deschutes River and a number of its tributaries through the storage, release, diversion, and return of irrigation water. FWS acknowledges the Deschutes Basin is a highly altered, complex hydrological system, and changes in surface hydrology caused by the covered activities alter the quantity and/or quality of aquatic habitats for listed species in both positive and negative ways. Furthermore, other numerous human and non-human activities influence the status of the covered species and their habitat in the Deschutes Basin, including urban and rural land use practices and climate change. Those activities are beyond the applicants' control and responsibility to mitigate and are, therefore, beyond the scope of the HCP.

Draft EIS Chapter 3, Section 3.4.3, *Environmental Consequences Fish and Mollusks*, evaluated changes in the seasonal timing and amount of flows as the primary pathway by which the proposed action and action alternatives may affect fish and mollusk habitats.

As described in Section 3.4.3, *Methods*, the RiverWare model outputs for timing and amount of flows by reach, and reservoir volume and elevation were used to characterize environmental conditions relevant to habitat requirements of fish and mollusk species and life stages. Changes in amount of streamflow and timing by reach influences habitat availability, habitat connectivity, and water quality attributes affecting species survival. RiverWare model results provided the basis for evaluating how the alternatives may affect these attributes essential for fish and mollusks.

Draft EIS Chapter 4, *Cumulative Impacts*, considers the potential for the proposed action and action alternatives to result in cumulative effects when considered in the context of other impacts from past, present, and reasonably foreseeable cumulative actions.

As described in Draft EIS Chapter 1, Section 1.1, *Introduction*, the Services will each independently prepare an ESA Section 7 BiOp on the proposed ITP actions prior to issuing separate RODs. The BiOps will evaluate the environmental baseline and the condition of the listed species or its designated critical habitat in the action area. The BiOps will be completed following publication of the Final EIS but prior to completion of the RODs, and will be incorporated into the RODs.

Impact Concern

EIS-15.26 Steelhead Reintroduction

One commenter asserted that if the proposed action impedes reintroduction success, it is contradictory to the purpose of the 2013 nonessential experimental population designation for Middle Columbia River steelhead.

Commenters

ORG-24

Response

As noted by the commenter, Draft EIS Chapter 3, Section, 3.4.3, *Environmental Consequences*, discloses impacts on reintroduction of Middle Columbia River steelhead in the Crooked River as an adverse impact.

As described in Draft EIS Chapter 1, Section 1.1, *Introduction*, the Services will each independently prepare an ESA Section 7 BiOp on the proposed ITP actions prior to issuing separate RODs. The BiOps will evaluate the environmental baseline, the condition of the listed species or its designated critical habitat in the action area. The BiOps will be completed prior to completion of the RODs that will be prepared following publication of the Final EIS and will be incorporated within the RODs.

Please refer to response to comment EIS-15.12, *Effect on Middle Columbia River Steelhead Recovery*, for additional information on how the relationship of reintroduction to recovery of Middle Columbia River steelhead has been assessed.

16 Land Use and Agricultural Resources

Adequacy of Analysis

EIS-16.1 Water Conservation Assumptions

One commenter asserted that the analysis of effects on water available for irrigation presented in Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, ignores the potential for districts water conservation projects to offset these effects by reducing demand.

Commenters

ORG-15

Response

The analysis presented in Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, and summarized in Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, accounts for a reasonable range of potential future increased conveyance and on-farm efficiencies by applying low and higher water conservation scenarios. The low conservation scenario assumes only limited future piping occurs to increase district conveyance efficiencies, and there is limited additional on-farm irrigation efficiency improvement. The high conservation scenario assumes nearly all district piping projects (as outlined in current district planning documents) proceed and higher on-farm irrigation efficiencies are achieved over a realistic timeframe. Refer to Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*. These water conservation projects may occur under all alternatives, including no-action. Even in the high conservation scenario, less total water available for crop irrigation is projected under the proposed action and other action alternatives compared to the no-action alternative.

EIS-16.2 Focus on Forage and Grain Crops

One commenter asserted that the analysis underestimates total farm productivity by focusing on forage and grain crops.

Commenters

GP-156

Response

Draft EIS Chapter 3, Section 3.9.3, *Environmental Consequences*, Impact SOC-1, Affect Economic Opportunity, acknowledges and discusses the methods and assumptions that may result in overestimating or underestimating economic impacts related to reduced irrigation water, and the effect of these assumptions on estimated impacts. While there may be some impacts on specialty crops, the analysis found that the impacts would likely be limited.

EIS-16.3 Potential for Longer-Term Impact of Seasonal Water-Stressed Crops

One commenter asserted that the Draft EIS underestimates the economic risk to irrigated agriculture by ignoring the longer-term impact of seasonal water-stressed crops and the irreversible nature of cropping decisions.

Commenters

GP-156

Response

As described in Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, in the section titled Agricultural Production Value and Economic Contribution, Methods, Key Assumptions, Data Sources, estimated impacts on agricultural production value assumed that once an acre ceases to receive irrigation water, the forage or grain crop goes dormant and does not provide additional cuttings/production for the rest of the season. Draft EIS Chapter 3, Section 3.9.3, Impact SOC-1, *Affect Economic Opportunity*, acknowledges that no multi-year impacts, such as impacts on subsequent year yields, are estimated which may understate costs to producers. To the extent that producers have multiple stands of different ages, they could limit multi-year effects on productivity by deficit irrigating their oldest stand.

EIS-16.4 Economic and Agronomic Cost of “Dormant” Cropland

One commenter asserted that the Draft EIS underestimates the economic risk to irrigated agriculture by not accounting for the economic and agronomic cost of “dormant” cropland.

Commenters

GP-156

Response

Draft EIS Chapter 3, Section 3.9.3, Impact SOC-8, *Affect Social Values Associated with Community Character and Way of Life*, and SOC-1, *Affect Economic Opportunity*, acknowledge that farmers facing reduced forage/grain yields would face decreased profits, increased livestock feed costs through purchase of hay to replace reduced forage production, and likely other costs associated with maintaining dormant hay or fallow fields such as weed control. The section also describes the potential longer-term effects of these costs.

EIS-16.5 Financial Costs of Water Shortages

One commenter asserted that the financial costs of water shortages could be higher and of longer duration than estimated in the Draft EIS.

Commenters

GP-156

Response

Wheat tends to be the most responsive crop to water shortages, as a relatively low-value annual crop. The Draft EIS combines wheat and all forage crops, which account for a much larger share of all acreage and production value than wheat alone in Jefferson County (and therefore, for a given water shortage, the percent change in forage/wheat production would be much lower than the percent change in wheat alone).

As described in Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, in the section titled *Farm Response to Crop Water Shortages: Change in Acreage*, farmers can respond by either fallowing lands or deficit irrigating. Because growers tend to deficit irrigate rather than fallow/abandon fields, the total production impact is usually greater than the impact on acreage. However, importantly, while the acreage impact may be different, the total production impact is not expected to be much different between deficit irrigation or fallowing. As noted in the appendix, for a given water supply reduction, fallowing and deficit irrigation have similar effects on the total value of agricultural production. For the reasons stated in the appendix, the analysis assumes all acreage is fallowed rather than deficit irrigated.

In Draft EIS Chapter 3, Section 3.9.3, Impact SOC-1, *Affect Economic Opportunity*, acknowledges that no multi-year impacts, such as impacts on subsequent year yields, are estimated that may understate costs to producers. To the extent that producers have multiple stands of different ages, they could limit multi-year effects on productivity by deficit irrigating their oldest stand.

Impact Concern

EIS-16.6 Future

One commenter expressed concern that increased winter flows under the proposed action would further negatively affect existing irrigation water shortages and reduce the amount and type of crops produced in Jefferson County.

Commenters

LOCAL-3

Response

Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, and Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, present the analysis of effects on agriculture of the proposed action and alternatives that increase winter flows compared to the no-action alternative over the permit term, incorporating the effects of the alternatives on water storage and water for irrigation in the context of ongoing district and on-farm water conservation projects to reduce demand. The analysis concluded that increased winter flows would reduce water supply under the proposed action and estimated the increased fallowing or deficit irrigation of forage and grain cropland in dry years in Lone Pine ID and North Unit ID. This information can be used to inform local responses and planning regarding future agricultural irrigation conditions.

Request for Clarification

EIS-16.7 Reduction in Water Supply

One commenter asked for an explanation of how the statement of Arnold ID water supply reductions in Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, compares to the percentages in Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, Table 7. The commenter also wanted clarification on the relationship between the data in Table 3.5-6 Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources* and the data in Table 7 of the Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*.

Commenters

STATE-1

Response

Statements of changes in water available for diversion in the Arnold ID in the Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources* match with the data on water diversions presented in Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*. In the Final EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, there are no data on water diversions presented, as these data are already presented in the Appendix 3.5-A. Also, regarding Table 3.5-6, this presents different data than presented in Table 7 in the Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*. Specifically, in the appendix, Table 7 compares water available for diversion under the proposed action to the no-action alternative. In contrast, the data in Table 3.5-6 and associated text compare changes in acre-equivalents under the no-action alternative compared to the proposed action. In sum, Table 3.5-6 presents change in acreage and Table 7 in the Appendix presents change in water available for diversion.

EIS-16.8 Effects in Median or Dry Years

One commenter asked why affected equivalent acreage for Arnold ID would be affected by available water during the median or dry years given that the district relies on natural flows in all years but the very driest.

Commenters

STATE-1

Response

Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, identifies the acreage that may be affected during the irrigation season based on RiverWare results regarding changes in water available for diversion. Water supply and acreage effects on Arnold ID have been updated in the Final EIS to reflect refinements to the RiverWare modeling, with notable reductions in effects on Arnold ID. The Final EIS analysis now concludes in Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, that the Arnold ID will only be affected in dry years.

17 Recreation

EIS-17.1 Site-Specific Effects of Flows for Recreation

Several commenters identified specific reaches where river recreation would be affected, with particular concerns for lower summer flows in the Upper Deschutes River reaches.

Commenters

STATE-1, ORG-7, GP-44, GP-48, GP-83, GP-114, GP-133, GP-175, FLP-53

Response

Final EIS Chapter 3, Section 3.7, *Recreation*, has been revised to include additional information regarding existing conditions and projected effects on the specific river reaches, including several reaches in the Upper Deschutes River and other reaches, as noted in public comments on the Draft EIS.

EIS-17.2 Recreation Flow Study

Several commenters called for a recreational flow study to address impacts on recreation.

Commenters

ORG-7, GP-46, GP-83, GP-133, GP-175

Response

Potential effects on whitewater rafting were evaluated based on the surface water analysis in Section 3.2, *Water Resources*, and the detailed flow levels projected by RiverWare (Appendix 3.1-B, *RiverWare Model Technical Memorandum*, and Appendix 3.2-A, *Water Resources Technical Supplement*). A separate recreational flow study was not required as the flow level modeling provided sufficient information to identify reasonably foreseeable significant adverse impacts on recreational river uses to ultimately inform a reasoned choice among alternatives. Final EIS Chapter 3, Section 3.7, *Recreation*, includes additional information regarding existing conditions and projected effects on the specific river reaches, including those noted by commenters.

EIS-17.3 Local Knowledge

Several commenters requested that FWS consult people that know the river to incorporate local knowledge into the impact assessment.

Commenters

ORG-7, GP-95, GP-112

Response

Numerous recreational stakeholders provided valuable information regarding recreational uses within the study area as part of public scoping for the Draft EIS. This information was included in the Draft EIS. Final EIS Chapter 3, Section 3.7, *Recreation*, has been revised to include additional

information regarding existing conditions and projected effects on the specific river reaches, including those noted in public comments.

EIS-17.4 State Scenic Waterways

Two commenters noted that state Scenic Waterway Flows adopted by the Oregon Water Resources Commission need to be applied to the analysis of effects on recreation.

Commenters

STATE-1, ORG-15

Response

As described in the Final EIS Chapter 3, Section 3.7, *Recreation*, minimum flow levels adopted by the Oregon Water Resource Commission and associated regulations (ORS chapters 390.932, 390.815 and 390.836) only apply to new water rights, which are not proposed under any of the alternatives. As described in Draft EIS Chapter 3, Section 3.6, *Aesthetics and Visual Resources*, Oregon State Scenic Waterways include portions of the Upper and Lower Deschutes Rivers and the Metolius River. The Final EIS Chapter 3, Section 3.7, *Recreation*, analysis has been updated to assess the potential effects on designated State Scenic Waterways. Under REC-2, *Conflict with Existing and Future Wild and Scenic and State Scenic Waterway Designations*, the proposed action and action alternatives would reduce whitewater opportunities, would improve vegetation, shorelines, aesthetics and related recreational opportunities. Therefore, the overall effect of the proposed action and action alternatives on designated State Scenic Waterways reaches would be not adverse compared to the no-action alternative.

Impact Concern

EIS-17.5 River Recreational Safety

Several commenters expressed concerns that lower summer flows in Upper Deschutes River reaches under the proposed action would create hazardous conditions.

Commenters

ORG-7, GP-83, GP-114, GP-175

Response

Final EIS Chapter 3, Section 3.7, *Recreation*, has been revised to include potential effects on whitewater safety.

EIS-17.6 Harm to Recreational Economy

Many commenters voiced concerns that the proposed action would harm the recreational economy of the Deschutes Basin.

Commenters

GP-46, GP-48, GP-114, GP-124, GP-133, GP-175, FLP-48, FLP-53

Response

Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, describes potential effects on the recreational economy.

Final EIS Section 3.9, *Socioeconomics and Environmental Justice*, has been revised to include effects of summer flow reductions on the recreation economy, including effects on whitewater opportunities in the Upper Deschutes, which are important to the local economy.

EIS-17.7 Recreational Fishing Economy

One commenter voiced concern that the proposed action would harm regionally significant fishing destinations of the Deschutes Basin.

Commenters

GP-95

Response

Adverse effects on recreational fishing are described in Draft EIS Chapter 3, Section 3.7, *Recreation*. Based on the analysis presented in the Draft EIS, Chapter 3, Section 3.4, *Biological Resources*, and on an evaluation of the degree of changes to flow levels and associated “fishability,” the proposed action is not anticipated to adversely affect fish populations or associated fishing opportunities and experiences.

EIS-17.8 General Recreation

Commenters voiced general concerns regarding the impacts on recreation.

Commenters

GP-107, GP-109, GP-133, GP-175

Response

The importance of recreation in the plan area is described in Draft EIS, Chapter 3, Section 3.7.2, *Recreation Affected Environment*. Adverse effects on recreational fishing are described in Draft EIS Chapter 3, Section 3.7.3, *Environmental Consequences*.

EIS-17.9 Wild and Scenic River Designations

One commenter noted that the Upper and Lower Deschutes River are designated and protected under the Wild and Scenic River Act and that in the Comprehensive Management Plan, recreation is identified as an Outstandingly Remarkable Value in all three designated segments of the Upper Deschutes to be protected and enhanced.

Commenters

ORG-7

Response

Effects on designated Wild and Scenic Rivers, including consistency with relevant management plans, are described in Draft EIS, Chapter 3, Section 3.7.3, *Recreation*, REC-2.

Modification to Proposed Action**EIS-17.10 Retain Higher Summer Flows for Recreation**

Several commenters requested that the proposed action include higher summer flows on the Upper Deschutes River for recreational paddlers.

Commenters

GP-47, GP-48, GP-113, GP-133, GP-175, FLP-53

Response

As described in Draft EIS, Chapter 3, Section 3.7, *Recreation*, the proposed action would reduce summer flows in some reaches that are important to whitewater recreation. Such reductions in summer flows would be unavoidable if the project's purpose and need were to be met, as more level flows are needed to minimize and mitigate for adverse effects on covered species, particularly Oregon spotted frog.

18 Tribal Resources***Request for Additional Information or Analysis*****EIS 18.1 Inadequate Support for Adverse Effect Determination under TR-2**

The commenter asserts that the Draft EIS' adverse effects conclusion under TR-2, *Affect Reintroduction of Salmon and Steelhead into Habitats Upstream of the Pelton-Round Butte Complex*, is unsubstantiated as Alternatives 3 and 4 provide protection and uncontracted fish and wildlife flows, benefiting Chinook salmon and steelhead trout.

Commenters

STATE-4

Response

Draft EIS Chapter 3, Section 3.8, Section 3.8.4.2 under TR-2, *Affect Reintroduction of Salmon and Steelhead into Habitats Upstream of the Pelton-Round Butte Complex*, concludes that overall the proposed action would have an adverse effect on spring Chinook salmon and steelhead trout reintroduction into the Crooked River compared to the no-action alternative and beneficial effects elsewhere. Overall, the effects would be adverse considering the importance of the Crooked River to reintroduction over the permit term, despite small beneficial effects in the Middle Deschutes River, Whychus Creek, Ochoco Creek, and McKay Creek.

In Draft EIS Chapter 3, Section 3.8, *Tribal Resources*, Sections 3.8.4.3 and 3.8.4.4, effects on reintroduction of salmon and steelhead under Alternative 3 and Alternative 4 are also discussed under TR-2. Within these sections it is acknowledged that, when compared to the no-action alternative, the effects would be the same as described for the proposed action, with the exception that under Alternative 3 adverse effects in the Crooked River would be of slightly lesser magnitude due to instream protection of uncontracted fish and wildlife releases, but effects would occur earlier in the permit term and therefore would be over a longer duration under Alternative 3 than described for the proposed action. While under Alternative 4 beneficial and adverse effects on the Crooked River would be of slightly greater magnitude, as described in Draft EIS Section 3.4.3.4 (Impacts BIO-6 through BIO-9²) for the reasons described for Alternative 4. Effects would occur earlier in the permit term under Alternative 4, but effects of the full implementation would be of a shorter duration. Greater beneficial effects would be higher storage season streamflows under Alternative 4 under Conservation Measure CR-1 (i.e., 80 cfs), but adverse irrigation season effects in reaches of the Crooked River described for the proposed action at full implementation would also occur. Given this, overall, it was concluded that both Alternative 3 and 4 would have an adverse effect on Chinook and steelhead reintroduction compared to the no-action alternative for the reasons described for the proposed action.

The Final EIS Chapter 3, Section, 3.8.3 *Environmental Consequences* was reviewed and revised as necessary to clarify this finding.

EIS-18.2 Reservation Boundaries

The commenter asserts that the Draft EIS fails to state that the covered lands include tribal trust lands outside the Warm Springs Reservation, which are located at Sherars Falls on the lower Deschutes River and hold significant cultural importance. Further, the commenter states that the Services' failure to accurately describe CTWS' lands and waters affected by the HCP have resulted in an incomplete analysis for purposes of NEPA. Finally, the commenter also points to 40 CFR Section 1503.4. as an additional resource for this section.

Commenters

TRIBE-1

² The effect conclusion for Impact TR-2 should not be directly compared to the effect conclusions for Impacts BIO-6 through BIO-9 in Section 3.4, *Biological Resources*. Impact TR-2 evaluates effects of the proposed action and action alternatives on habitat requirements for reintroduced fish species and effects on reintroduction. The adverse effects of water management in some reaches of the Crooked River in some years, as discussed in Impacts BIO-6 through BIO-9, are considered an adverse effect on Impact TR-2 because of the importance of the Crooked River watershed for reintroduction (Oregon Department of Fish and Wildlife and Confederated Tribes of the Warm Springs 2008). Impacts BIO-6 through BIO-9 evaluate effects on steelhead and spring Chinook salmon habitat and migratory life stages across the entire study area (i.e., Crooked River habitats upstream of Pelton-Round Butte and Lower Deschutes River habitats); therefore, adverse effects on habitat in some Crooked River reaches in some years along with a mixture of not adverse, no effect, and beneficial effects in other water bodies occupied by the species resulted in an overall conclusion of not adverse.

Response

Final EIS Chapter 3, Section, 3.8.2 *Affected Environment* has been revised to acknowledge that the reservation boundaries extend to middle of Deschutes River channel. The Warm Springs Reservation boundary is now described as follows:

The Warm Springs Reservation in Central Oregon encompasses 640,000 acres between the middle of the Deschutes River and the crest of the Cascade mountain range; and the Metolius River and Deschutes River are streams running within and bordering the Reservation.

In addition to this, within the Final EIS Chapter 3, Section, 3.8.2, has also been updated to reference the off-reservation Sherars Falls and Bridge fishing sites on the Deschutes River at RM 44 and to acknowledge the sites' significant cultural, historic, and economic significance to the CTWS.

Finally, while the commenter points to 40 CFR Section 1503.4 as an additional resource for this section, it relates to providing responses to comments. Therefore, FWS determines this is not relevant to the Draft or Final EIS Chapter 3, Section 3.8, *Tribal Resources*.

EIS-18.3 Tribal Rights to Fish

One commenter asserts that the Draft EIS does not adequately analyze the proposed action and alternatives' effects on Tribal rights to fish above the Pelton Project, stating that government consultation is needed to address this effect.

Commenters

TRIBE-1

Response

Draft EIS Chapter 3, Section 3.4.3, *Environmental Consequences*, disclosed effects of the proposed action and alternatives on habitats for reintroduction of fish above the Pelton-Round Butte project.

Final EIS Chapter 3, Section 3.8.3 text has been reviewed and revised as necessary to clarify the Tribe's goal of restoring fish above the project to levels that would allow harvest on populations upstream of the Pelton-Round Butte project.

Since publication of the Draft HCP and Draft EIS, the Services and Reclamation requested formal government-to-government consultation with the CTWS Tribal Council. Representatives from the Services and Reclamation met with the CTWS Tribal Council on February 24, 2020. The Services respect, have implemented, and will continue to implement the necessary consultation processes with the CTWS.

EIS-18.4 Reintroduction of Salmon/Middle Columbia River Steelhead

The commenter asserts that the reintroduction of salmon and Middle Columbia River steelhead into habitats upstream of the Pelton-Round Butte Complex should be analyzed beyond the context of this action's effects on tribal resources to include the effects to existing federal and state fisheries plans.

Commenters

TRIBE-1

Response

Final EIS Chapter 3, Section 3.8.3, *Environmental Consequences*, has been revised to acknowledge that, although reintroduction is discussed in Final EIS Chapter 3, Section 3.8, it is included in federal and state fisheries plans and is a requirement of the 2005 License for the Federal Energy Regulatory Commission Pelton-Round Butte Project, which is co-managed by Portland General Electric and the CTWS.

Final EIS Chapter 3, Section 3.4.3, *Environmental Responses*, was revised to discuss effects of the proposed action and alternatives on reintroduction consistent with federal and state plans for reintroduction and recovery of Middle Columbia steelhead by reference to Final EIS Section 3.8, *Tribal Resources*.

EIS-18.5 Discussion of Water Rights

The commenter asserts that the Draft EIS does not adequately discuss tribal water rights outside of the Warm Springs Reservations, citing *U.S. v. Washington*, 853 F.3d 946 and *Baley v. United States*, 2019 WL 5995861 (Nov. 14, 2019).

Commenters

TRIBE-1

Response

The Services understand that the Tribe's 1997 settlement did not specifically address all of the Tribe's possible off-reservation water rights claims, as the 1997 settlement only addressed on-reservation and off-reservation rights to water adjacent to the reservation (i.e., Deschutes River, Pelton Lakes, and the Metolius River; refer to the 1997 Settlement, Art. VI.A.16). However, the Services acknowledge that the Tribe's claim (as set out in its comment) on off-reservation water rights in the Deschutes Basin, and that this claim includes the Crooked River within the Plan area, as well as its tributaries. Final EIS, Section 3.8.2.1, *Confederated Tribes of the Warm Springs Reservation of Oregon*, has been revised to reflect this claim.

While the facts of the *Baley* decision are specific to the operation of a Reclamation project and the various Indian reservations in the Klamath Basin, even if its holding were applicable here, the Services will conduct intra-Service Section 7 consultations prior to issuing the ITPs and the ITPs will not be issued unless the Services conclude that such actions will not violate Section 7(a)(2) of the ESA.

EIS-18.6 Determination of Water Right Effect

One commenter asserts that the Draft EIS does not substantiate the determination that the HCP would not have an adverse effect on tribal off-reservation water rights.

Commenters

TRIBE-1

Response

Final EIS Chapter 3, Section 3.8.3, *Environmental Consequences*, under TR-4, *Affect Warm Springs Tribes' Reservation Reserved Water Rights*, has been reviewed and revised as necessary to clarify that the analysis relates to the reservation water rights defined by the 1997 settlement agreement, and is the basis for the finding of no effect on water rights, which includes the incorporation of water quality impacts, relating to the proposed action into the analysis.

The Services understand that the CTWS' 1997 settlement did not specifically address all the Tribe's possible off-reservation claims, as the 1997 settlement only addressed on reservation and off-reservation rights to water adjacent to the reservation (i.e., Deschutes River, Pelton Lakes, and the Metolius River; refer to 1997 Settlement, Art. VI.A.16). However, the Services acknowledge that the CTWS claim (as set out in its comment) off-reservation water rights in the Deschutes Basin, and that this claim includes the Crooked River within the Plan area, as well as its tributaries. However, since these claims have not been adjudicated or otherwise quantified, they are not amenable to the type of analysis that was conducted under TR-4, *Affect Warm Springs Tribes' Reservation Reserved Water Right*, in Draft EIS, Section 3.8, *Tribal Resources*. However, impacts from the HCP and alternatives to the resources that any such off-reservation water rights claims would seek to protect, namely, fish, vegetation, and wildlife, and the tribal fishery, were presented in the Draft EIS at Section 3.8.

EIS-18.7 Tribal Decision Making

One commenter stated that the CTWS typically frame decisions on water resources by weighing the effects for seven generations into the future.

Commenters

GP-189

Response

The EIS analysis has been limited to evaluating effects to 30 years to correspond with the length of the permit term. Although the analysis period was 30 years, resource impacts consider longer goals, (e.g., reestablishing harvestable salmon and steelhead populations upstream of the Pelton-Round Butte Complex). However, in acknowledgement of the longer tribal decision-making time frames, the Final EIS Chapter 3, Section 3.8.1, *Methods*, has been revised to state that the affected tribes may frame decisions on water resources by weighing the effects for seven generations into the future.

EIS-18.8 Tribal Effects from Water Quality Changes

The commenter asserts that the EIS should analyze water quality issues from a tribal lens due to the effects of water quality on fish populations.

Commenters

TRIBE-1

Response

Final EIS Chapter 3, Section 3.8 was reviewed and revised as necessary to encompass a broader view of the resources. The broader view with regard to water quality as a resource has been incorporated by including references to other resources sections in the Final EIS Chapter 3, Section 3.8, *Tribal Resources*, where beneficial. A broader view was also incorporated into the analysis of effects of the proposed action on water quality in the Deschutes River under TR-4, *Affect Warm Springs Tribes' Reserved Water Right*.

EIS-18.9 Categorization of Resources

The commenter states that tribal cultural resources should be identified and discussed in conjunction with the natural tribal resources identified in the Draft EIS. Additionally, the commenter states that tribal cultural resources should be discussed separately from other, non-tribal cultural resources.

Commenters

TRIBE-1

Response

The Final EIS has been revised to reference Final EIS Chapter 3, Section 3.10, *Cultural Resources* in Section 36.8, *Tribal Resources*, for more information about the CTWS's cultural connection in the study area and cultural resources.

Impact Concern**EIS-18.10 Harvest and Fish Reintroduction**

The commenter asserts that the Draft EIS contains an inaccurate determination of effects to tribal fish resources above the Pelton Project. The commenter states that the reason CTWS members do not focus fishing efforts there is because fish have been extirpated by the Pelton Project, not because these areas do not hold tribal significance.

Commenters

TRIBE-1

Response

Final EIS Chapter 3, Section, 3.8, *Tribal Resources*, has been reviewed and revised to acknowledge that, while current harvest practices are in the lower river and on lower river populations, CTWS members at one time harvested populations returning above the Pelton-Round Butte project and that a goal of reintroduction is for future harvest of fish returning to above the project.

However, it should be noted that the no-action alternative defines the future circumstances that are predicted to continue to occur without the proposed action, and assumes continuation of existing harvest activities, management plan, or program. The no-action alternative is, therefore, the condition against which the proposed action and alternatives are judged. The HCP considers the historical and current conditions of covered, land, waters and species and their habitat in

establishing a baseline against which the effects of the proposed action are compared. Please refer to response to comment EIS-3.2, *Baselines*, for additional information.

Tribal Liability Concern

EIS-18.11 Reintroduction Effects

The commenter states that the Draft EIS should evaluate the effects of the proposed action on salmon and steelhead reintroduction efforts, asserting that these effects would disproportionately burden Portland General Electric and the CTWS.

Commenters

TRIBE-1

Response

Draft EIS Chapter 3, Section 3.8.3, *Environmental Consequences*, discloses impacts on reintroduction of steelhead, spring Chinook and sockeye salmon above the Pelton-Round Butte complex.

Please also refer to the responses to comments EIS-15.11, *Middle Columbia River Steelhead Reintroduction and Opal Springs Dam Fish Passage*, EIS-15.12, *Effect on Middle Columbia River Steelhead Recovery* and EIS-15.26, *Steelhead Reintroduction*.

EIS-18.12 Water Rights

The commenter expresses concern that the Draft EIS does not adequately address the full scope of tribal water rights, including effects to water quality in the Crooked River and subsequent impacts on water quality in Lake Billy Chinook and the Lower Deschutes River (per the 1997 Confederated Tribes of The Warm Springs Reservation Water Rights Settlement Agreement) and that this constitutes a violation of tribal water rights.

Commenters

TRIBE-1

Response

Final EIS Chapter 3, Section 3.8, *Tribal Resources*, has been reviewed and revised to evaluate effects of the proposed action and alternatives on water quality in Lake Billy Chinook and the Lower Deschutes River that may impact the CTWS' ability to exercise this water right.

Administrative Record

EIS-18.13 Suggested Additions to Administrative Record

The commenter provided a list of resources that are recommended for inclusion in the EIS administrative record.

Commenters

TRIBE-1

Response

Final EIS Appendix 3.1-A, *Regulatory Environment*, has been reviewed and revised to include cited material applicable to the proposed action and alternatives.

19 Socioeconomics and Environmental Justice

Request for Clarification

EIS-19.1 Table Heading

One commenter requested clarification about the title and column headings for Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, Table 3.9-4.

Commenters

ORG-12

Response

Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, Table 3.9-4 concerns the percentages of farm operators in the study area. The Final EIS title and column headings have been clarified.

EIS-19.2 Table Headings and Definitions

One commenter requested clarification about the title, row, and column headings and definitions for Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, Table 3.9-5.

Commenters

ORG-12

Response

The caption for Table 3.9-5 in the Final EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, has been modified to “Selected Farmworker Socioeconomic Characteristics (Earnings, Days Hired, and Proportion Migrant) in the Study Area” to provide additional clarity about the information the table presents. In addition, the row and column headings have been revised to provide clarity. As identified in Draft EIS Section 3.9, and now clarified in the row and column headings of Table 3.9-5, the table presents the percentage of farmworkers who are hired for less than 150 days, the percentage of farmworkers who are migrant, and the average annual hired farmworker earnings per job in the study area.

Request for Additional Information or Analysis

EIS-19.3 Total Economic Contribution of Agriculture

Several commenters stated that Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, does not present information on the importance of the total economic contribution of agriculture (particularly the importance of carrot seed) to the local economy, and the associated importance of adequate irrigation water supplies.

Commenters

ORG-18, GP-151

Response

Information on the total economic contribution of agriculture to the local economy has been added to Final EIS Chapter 3, Section 3.9.2.3, *Employment and Income*, and information on the importance of the carrot seed industry specifically has been added to the discussion of Impact SOC-1 (Affect Economic Opportunity) in Final EIS Chapter 3, Section 3.9.3, *Environmental Consequences*.

Adequacy of Analysis

EIS-19.4 Negative Effects on North Unit ID Farmers and Local Economy

Several commenters stated that the Draft EIS underestimates (particularly in extreme water scarce years or in the case of recurring years of water shortages) the negative effects (i.e., decreased net farm income, farm viability, tax revenues, farmland value, local economy) of reductions in irrigation deliveries and water conservation costs on farm families and communities.

Commenters

GP-151, GP-156, ORG-18, GP-156

Response

Draft EIS Chapter 3, Section 3.9.3, Impacts SOC-1 (Affect Economic Opportunity), SOC-7 (Change Local Government Fiscal Conditions), and SOC-8 (Affect Social Values Associated with Community Character and Way of Life) present the quantitative analysis of the effects of reduced irrigation supplies on agriculture, farm families, and agricultural communities in dry, median, and wet years, but do not quantitatively assess effects in extreme water scarce years. Draft EIS Chapter 3, Section 3.9.3, *Environmental Consequences*, Impact SOC-1 (Affect Economic Opportunity), acknowledges and discusses the methods and assumptions that may result in overestimating or underestimating economic impacts related to reduced irrigation water, and the effect of these assumptions on estimated impacts. Draft EIS Section 3.9, *Socioeconomics and Environmental Justice*, presents the cumulatively projected magnitude and frequency of water shortages in Tables 3.9-9, 3.9-11, and 3.9-12 (final column). These tables represent annual average impact in all water year types. Impact SOC-1 (Affect Economic Opportunity), acknowledges that no multiyear impacts are evaluated, which may understate the effects in the case of back-to-back dry water years. The Final EIS includes a statement, under Impact SOC-1 (Affect Economic Opportunity), on the potential magnitude difference in adverse effects in extreme dry years.

EIS-19.5 Total Agricultural Water Demand

One commenter asserted that the Draft EIS should acknowledge and avoid potential unintended consequences of reduced water supplies to North Unit ID that could undermine environmental objectives. The commenter specifically noted that an unintended consequence could be increased water use in irrigation districts that have lower water use efficiency (to meet regional hay demand and offset decreased forage production in the more water efficient North Unit ID).

Commenters

GP-156

Response

Total water demand and use in each irrigation district is limited by the water rights and allocation of water to each district. Each district is already diverting most, if not all, of their allocated water rights. Consequently, water use cannot increase by much in other districts to respond to a local hay shortage resulting from reduced agricultural production in the North Unit ID. Further, the region currently exports hay, so the area can likely absorb a reduction in total hay production while still meeting local demand. Additionally, to the extent that a basin-wide water market is implemented, as the most efficient, high value area (and thus the area likely most able and willing to purchase water from other areas), the effects on North Unit ID would be more limited.

Effect Concern**EIS-19.6 Negative Effects on North Unit ID Farmers and Local Economy**

Commenters expressed concern that the HCP would disproportionately affect North Unit ID farmers and the local economy and labor force and that the EIS should account for these effects.

Commenters

GP-156, GP-162, LOCAL-2, GP-157

Response

The Draft EIS does analyze how the HCP (i.e., the proposed action) would disproportionately affect North Unit ID farmers and the local economy and labor force.

Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, analyzes how each Deschutes Basin irrigation district, including the North Unit ID, may respond to changes in the water supply available for irrigation diversion, and how these responses may change the value of agricultural production and the economic contribution of agricultural production. The appendix and the Draft EIS, Chapter 3, Section 3.9.3, Impact SOC-1 (Affect Economic Opportunity), also discusses potential effects on agricultural production and value in each district. Draft EIS Chapter 3, Section 3.9.3, Impacts SOC-1 (Affect Economic Opportunity), SOC-7 (Change Local Government Fiscal Conditions), and SOC-8 (Affect Social Values Associated with Community Character and Way of Life) present the quantitative analysis of the effects of reduced irrigation supplies on agriculture, farm families, and agricultural communities. Effects on economic opportunity, taxes, and way of life

in these sections of the Draft EIS are presented at the county level as these effects extend past the district and farm boundaries to affect socioeconomic conditions at the county level.

Draft EIS Chapter 3, Section 3.9.3, SOC-1 (Affect Economic Opportunity), also acknowledges and discusses the methods and assumptions that may result in overestimating or underestimating economic impacts related to reduced irrigation water, particularly related to the potential for specialty crops to be affected in North Unit ID, and the effect of these assumptions on estimated impacts.

EIS-19.7 Potential for Agricultural Land Conversion

Commenters expressed concern that reduced water supplies in North Unit ID may reduce the viability of commercial agriculture and increase conversion of farmland into hobby farms and rural residences, which are not as productive or water efficient. Farms provide environmental benefits not provided by urban/suburban land uses.

Commenters

GP-156, GP-162, ORG-18, GP-122

Response

As discussed in Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*, reduced water supplies are expected to lead to land fallowing and associated reduction in agricultural productivity. As discussed in Draft EIS Chapter 3, Section 2.1, *Land Use and Agricultural Resources*, land use laws restrict conversion of agricultural land to urban/suburban uses. To the extent allowable by land use laws, reduced water availability may increase the potential for some commercial agricultural lands to become hobby agricultural lands, which tend not to be as productive or water efficient (i.e., land produces less crop for a given level of water diverted). However, regardless of whether there is a shift toward hobby farms, the total amount of water diverted is not likely to change as it is expected that North Unit ID will divert the maximum water flow allowable per their water right under for agricultural production regardless of whether it is for hobby farms or commercial farms. Whether lands are fallowed or become hobby farms, the estimated reduction in productivity is presented in Draft EIS Section 3.5 and Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*. As the analysis is structured to estimate the maximum acreage that would be fallowed in any given water year (while leaving all other acreage with the same water supply available under the no-action alternative), the dry year estimate of affected acreage represents the maximum acreage and associated production affected by the proposed action and alternatives.

Request for Additional Information or Analysis

EIS-19.8 Environmental Justice

Commenters noted that Jefferson County has a diverse and economically stressed population and requested that the environmental justice analysis clearly identify the environmental justice populations of concern. Commenters also requested the EIS analyze the CEQ threshold criteria to consistently determine adverse effects under all alternatives and be clear on what the effects would be on vulnerable populations, how effects would affect cultural and economic values, and when the effects would occur.

Commenters

GP-138, LOCAL-1, ORG-11

Response

Final EIS Chapter 3, Section 3.9.2.2, *Environmental Justice Populations*, more clearly states that tribe members and farmworkers are potentially affected environmental justice populations. The effects analysis in Final EIS Section 3.9.3, *Environmental Consequences*, Impact SOC-9 (Affect Environmental Justice Populations) is revised to clearly use CEQ threshold criteria for environmental justice effects for consistent comparison across alternatives and to clearly identify the type and timing of effects on environmental justice populations.

EIS-19.9 Farmworkers and Local Economy

Commenters noted that employment impacts are concentrated on a vulnerable population and asserted that farm employment effects would have larger and broader economic and socioeconomic impacts than captured in the Draft EIS. Commenters requested that the EIS consider how changes in employment for a migrant farm labor force may have greater indirect/induced effects.

Commenters

GP-156, GP-146

Response

Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, includes estimates of the change in the local economy with reductions in farm income and jobs, including all ripple effects related to farmworker spending. These effects would not be higher even if farmworkers were no longer residents in the community. The Final EIS reflects the addition of a description of how economic effects could be more long-term or permanent if decreases in farm employment led to migrant farmworkers or others to relocate from the area. The Final EIS Chapter 3, Section 3.9.3, *Environmental Consequences*, also includes consideration of how local government spending to meet local social service demand may be affected.

EIS-19.10 Hydropower

One commenter stated that the Draft EIS should assess how the proposed action would affect costs to CTWS of environmental compliance at the Pelton Hydroelectric Project.

Commenters

TRIBE-1

Response

Under Impacts SOC-6 (Affect Hydropower Production and Energy Costs) and SOC-9 (Affect Environmental Justice Populations), the Final EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, provides information on the potential for fish reintroduction costs (as required by the Project license) to increase in the Crooked River, and confirms that these increased

costs are expected to be borne partially by the CTWS (i.e., an environmental justice population as analyzed in SOC-9) and Portland General Electric, the co-owners of the facility.

EIS-19.11 Tribal Values

One commenter stated that Draft EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice*, should assess the cultural and economic value to the CTWS of reintroduction of salmon and Middle Columbia River steelhead trout above the Pelton Project and the HCP's risk to the success of reintroduction.

Commenters

TRIBE-1

Response

As noted in the Final EIS Section 3.8, *Tribal Resources*, the proposed action and action alternatives would have an adverse effect on spring Chinook salmon and steelhead trout reintroduction in the Crooked River compared to the no-action alternative and beneficial effects elsewhere. Final EIS Chapter 3, Section 3.9, *Socioeconomics and Environmental Justice* under SOC-3 (Affect Habitat and Species-Related Cultural and Economic Values) now includes reference to potential adverse effects on socioeconomic values associated with adverse effects on fish reintroduction in the Crooked River.

EIS-19.12 Water Conservation/Efficiency

Two commenters stated the socioeconomic and land use effects analyses should be broadened to include analysis of more streamflow restoration tools (other than piping), and Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, should provide more information on the barriers to a water market and why it was not analyzed.

Commenters

ORG-9, ORG-14

Response

Draft EIS Appendix 3.5-A, *Agricultural Uses and Agricultural Economics Technical Supplement*, identifies the likely future investments in district and on-farm water use efficiency (refer to *Agricultural Water Use Efficiency*). In *Key Assumptions*, in assumption 4, the appendix notes that legal barriers currently exist to water markets, but that these legal barriers may be removed in the future. Assumption 4 describes why water marketing is not directly analyzed: the timing and certainty of water market development are not known, and acreage affected by water shortages is assumed to be grain and forage crops (i.e., hay, alfalfa, pasture) in all districts. These uncertainties limit the difference in value of water across all districts, and reduce the economic effect of a water market. In other words, by assuming grain and forage crops are only affected by changes in water supply, analysis results are similar to those from a water market. Final EIS Chapter 3, Section 3.9, Impact SOC-1 (Affect Economic Opportunity) now reflects additional language that a water market in the basin could shift the location of impact (i.e., away from North Unit ID toward other areas of the basin).

20 Cultural Resources

Adequacy of Analysis

EIS-20.1 Link between EIS Analysis and Section 106

One commenter pointed out that although FWS and the National Marine Fisheries Service (NMFS) (collectively, the Services) had not initiated the Section 106 process prior to preparation of the Draft EIS, the Draft EIS defines “cultural resources” by reference to the National Historic Preservation Act (NHPA) and presents thresholds for “adverse effects” to those that are within the purview of the NHPA.

Commenters

TRIBE-1

Response

FWS formally began the NHPA Section 106 compliance process with the Oregon State Historic Preservation Office (SHPO), the U.S. Forest Service, NMFS, Reclamation, and three affected Indian Tribes in November 2019. This included written correspondence and in-person meetings describing and mapping the undertaking and area of potential effect (APE). FWS has initiated and is continuing to consult on historic property identification in the direct and indirect APE (i.e., the Wickiup Reservoir and adjacent environs) using advice from the Oregon SHPO, U.S. Forest Service, Reclamation, and the Confederated Tribes of the Warm Springs (CTWS) Tribal Historic Preservation Officer. As a result, resources identified through ongoing consultation are not included in this analysis but will be considered as part of a Section 106 compliance effort. Identified historic properties and information obtained through consultation will be used in the development of a cultural resource overview and historical context document that provides information on cultural resource protection and management in and near the APE. The overview will serve as a baseline from which FWS will draft and execute a Section 106 agreement document with the consulting parties that identifies cultural resource surveys, protections and mitigations during implementation of the HCP over the life of the permit.

In anticipation of potential impacts and in support of FWS’s Section 106 consultation efforts the Final EIS Chapter 3, Section 3.10, *Cultural Resources*, describes effects of the proposed action and alternatives on known cultural resources, including those anticipated to be considered historic properties. Final EIS Chapter 3, Section 3.8, *Tribal Resources*, describes effects on other tribal cultural resources, namely traditionally important plants and animals. Section 3.8 reflects revisions to the description of the full range of cultural resource types that were considered and to include relevant information from the on-going NHPA Section 106 process.

EIS-20.2 Limited Study Area

Commenters expressed concern that the analysis of effects on cultural resources was limited to Wickiup Reservoir. One commenter disagreed with the rationale for limiting the study area based on the extent of water level fluctuations, stating that smaller changes in water level can affect archaeological sites, and the accuracy of the RiverWare model’s predictions for these changes.

Commenters

TRIBE-1, ORG-12

Response

Final EIS Chapter 3, Section 3.10, *Cultural Resources* has been revised to reflect that all of the reservoirs were considered in the analysis, and presents information relating to how the proposed action and alternatives would affect cultural resources relative to the no-action alternative. Downstream of the reservoirs, the proposed action and action alternatives would result in reduced flood intensity and duration relative to the no-action alternative. As a result, impacts that could differentially affect cultural resources relative to the no-action alternative are not anticipated, and the cultural resources study area was limited to the reservoirs.

For the purposes of this NEPA analysis, the study area for cultural resources is defined as the areas where changes in storage and release of water under the proposed action and alternatives could affect cultural resources as a result of changes in resource exposure, erosion, or inundation as a result of water level fluctuations. This is because the erosion, exposure, or inundation of a cultural resource can both impact a resources ability to convey its cultural importance and change the way in which people can access the resource—both negatively (i.e., erosion, looting, loss of access to a traditional gathering place) and positively (i.e., protection from looting, burial and protection from erosion). These factors are already occurring under existing conditions throughout the covered lands and waters and would continue to occur under the no-action alternative. As a result, the specific issue explored in the analysis is the extent to which these factors would vary under the proposed action and Alternatives 3 and 4 (action alternatives) relative to the no-action alternative.

Finally, river-reservoir models, such as RiverWare, are designed to explore potential future conditions and give an indication of how changes in the system compare to current conditions. They are based on the best available data and information, and for this study, their operating rules and assumptions were vetted and discussed by many experts. No model will perfectly represent future conditions, nor should it be expected to do so. Additionally, the results were not used as though they would perfectly represent the future. Rather, the models were used to consider relative changes and possible improvements to the system given historical hydrology. Real-time conditions may require operations to adjust and adapt differently than the model results, depending on changing weather and hydrologic conditions.

EIS-20.3 Section 106 Review Process

Commenters expressed concern that the Section 106 review process was incomplete and that the CTWS has not yet been consulted. As a result, the reviewer did not consider the information currently presented in the document to reflect the full range of historic properties as defined under Section 106 of the NHPA. Therefore, in concert with other concerns posed by the reviewer, the reviewer considered the cultural resources review to be inadequate. Commenter also notes that “In addition, cultural monitoring, inadvertent discovery and mitigation measures will need to be in place for the affected areas in the event the HCP is implemented.”

Commenters

TRIBE-1

Response

FWS formally began the NHPA Section 106 compliance process with the Oregon SHPO, the U.S. Forest Service, NMFS, Reclamation, and three affected Indian Tribes in November 2019. This included written correspondence and in-person meetings describing and mapping the undertaking and APE. FWS has initiated and is continuing to consult on historic property identification in the direct and indirect APE (i.e., the Wickiup Reservoir and adjacent environs) using advice from the Oregon SHPO, U.S. Forest Service, Reclamation, and the CTWS Tribal Historic Preservation Officer. As a result, resources identified through ongoing consultation are not included in this analysis but will be considered as part of a Section 106 compliance effort. Identified historic properties and information obtained through consultation will be used in the development of a cultural resource overview and historical context document that provides information on cultural resource protection and management in and near the APE. The overview will serve as a baseline from which FWS will draft and execute a Section 106 agreement document with the consulting parties that identifies cultural resource surveys, protections and mitigations during implementation of the HCP over the life of the permit.

Section 3.10, *Cultural Resources*, addresses all of the potential cultural and historic property resources that could be affected by the proposed action and alternatives, as directed in NEPA Regulations. While the NHPA Section 106 process is not yet complete, this Final EIS incorporates directly and by reference the relevant information from that process to address NEPA Regulations Section 1502.25, requiring integration of related laws, including the NHPA. FWS has made a good faith effort to consult and solicit input from the CTWS during monthly meetings throughout the HCP and EIS process. FWS also held four scoping meetings, two cooperating agency meetings (in which the CTWS participated), and numerous project development meetings that CTWS representatives attended. CTWS was also provided opportunity to review the preliminary EIS outline, effect thresholds, and administrative draft analysis sections.

21 Upper Deschutes Conservation Fund

Request for Additional Information or Analysis

EIS-21.1 Establishment of Biological Metrics, Funding Guidelines, and Estimates

One commenter requested that additional analysis be undertaken and included in the Final HCP and Final EIS. The additional analysis should be conducted to facilitate the establishment of specific biological metrics/goals for all applicable species that the fund seeks to support so that the magnitude or scale of improvements that could be achieved on an annual basis and over the 30-year permit term can be determined. Once established, the commenter recommended that this information, alongside public input, be used to develop funding estimates and guidelines.

Commenters

ORG-14

Response

The conservation measure in the HCP requires the applicants to provide \$150,000 per year for the Upper Deschutes Conservation Fund. Because the applicants are not Oregon spotted frog or river

restoration experts, the conservation commitment would be to provide the necessary funding so that Oregon spotted frog and river restoration experts can restore Oregon spotted frog habitat in the Upper Deschutes River. Projects to be funded will be ranked and recommended by a technical committee and funding decisions would be made by the fund's Advisory Committee, which includes FWS, the Oregon Department of Fish and Wildlife, and the U.S. Forest Service. FWS is in the process of developing a draft *Oregon Spotted Frog Recovery Plan and Implementation Strategy* for the range of the species. This plan and strategy will inform the conservation priorities for projects funded under this element. In the early years, the fund would be used to treat invasive animal and plants, such as bullfrog (*Lithobates catesbeianus*) and reed canarygrass (*Phalaris arundinacea*), that have been identified as threats to Oregon spotted frog. Site-scale habitat improvements such as vegetation encroachment also will be implemented using the fund. Reducing threats to Oregon spotted frog and its habitat is essential to facilitating Oregon spotted frog recovery. Long-term restoration projects that support Oregon spotted frog will be developed and moved through the necessary permitting processes. Given this, additional analysis does not need to be undertaken for the Final HCP or Final EIS. The Final EIS and Final HCP outline the vision for the fund and the proposed implementation timelines.

EIS-21.2 Funding Determinations

One commenter requested additional information on which entity would make funding determinations and how funding decisions would be prioritized. The commenter also recommended that funding decisions be made by an independent entity with experience in grant-making and that input be sought from the public.

Commenters

ORG-14

Response

The purpose of the Upper Deschutes Conservation Fund is to fund projects that would complement the actions in the Deschutes HCP to address adverse impacts on the Oregon spotted frog. The fund would be used to minimize and mitigate effects of take on Oregon spotted frog by improving habitat and reducing threats to the species. Funding for projects would be prioritized in the short term and in the long term to increase connectivity between disjunct populations, expand population distribution, and increase population viability and abundance of the species. Conservation projects would tier to recovery actions identified in the FWS draft *Oregon Spotted Frog Recovery Plan and Implementation Strategy* (anticipated in December 2020) and other restoration plans for the Upper Deschutes River that support Oregon spotted frog conservation.

At this time, it is anticipated that the fund would be held by the Oregon Community Foundation, a 501(c)(3) organization. A small technical committee composed of Oregon spotted frog and river restoration experts will rank projects for funding, and funding decisions would be made by the fund's Advisory Committee, which includes FWS, Oregon Department of Fish and Wildlife, and the U.S. Forest Service.

EIS-21.3 Funding Monitoring

One commenter requested additional information on how funded projects would be monitored and evaluated for effectiveness and potential adaptive management changes.

Commenters

ORG-14

Response

Projects to be funded through the Upper Deschutes Conservation Fund would include monitoring to assess effectiveness. This monitoring, in addition to the required monitoring in the Deschutes Basin HCP, would inform the funding for future projects.

Conversation Fund Actions**EIS-21.4 Use of Beaver Dam Analog at Dead Slough**

One commenter requested that FWS use beavers to create a beaver dam at Dead Slough to mitigate head-cut formation and maintain winter water at high elevations, rather than a beaver dam analog. The commenter stated that beavers provide a multitude of benefits to rivers and wetlands, including creating habitat for the Oregon spotted frog, and the use of beavers rather than a beaver dam analog would provide safe stretches of rivers for beavers and help the beaver population rebound.

Commenters

ORG-19

Response

FWS agrees that healthy beaver populations are important to maintaining aquatic habitats for Oregon spotted frog. Beaver activity is evident throughout the Deschutes River wetlands downstream of Wickiup Dam and at the Dead Slough. Natural dam-building by beavers is preferred over an engineered structure. The use of a beaver dam analog to retain water with the Dead Slough is a concept of an action that could be taken to improve year-round hydrological conditions in this area. Implementation of this action would require interdisciplinary expertise from multiple agencies and organizations. This concept would require further evaluation and would not be implemented without coordination among experts.

EIS-21.5 Funding for Upper Deschutes Conservation Fund

One commenter recommended that funding for the Upper Deschutes Conservation Fund be expanded beyond the applicants and FWS, to cover all water users/stakeholders so they can share the costs for improving the health of the Deschutes River.

Commenters

ORG-5

Response

The purpose of the Upper Deschutes River Conservation Fund is to mitigate impacts on Oregon spotted frog and designated critical habitat for the species. Actions funded via this fund would tier to recovery actions identified by FWS for conservation of the species. River restoration projects that support enhancing or creating Oregon spotted frog habitat are likely to benefit the Deschutes River restoration goal. At this time, it is anticipated that the fund will be held by the Oregon Community Foundation, a 501(c)(3) organization. Contributions from other sources will be accepted by the fund; however, the prime goal of the fund is to mitigate for Oregon spotted frog impacts by the applicants.

22 RiverWare Appendix (Draft EIS Appendix 3.1-B)***Request for Clarification*****EIS-22.1 Use of 365 Days in Irrigation Season Release Formula**

One commenter asked if using 365 days for the irrigation season in the formula for Irrigation Season Release in Section 2.3, *Crooked River Operation*, was an error, or if intentional, what the consequences were for model outputs.

Commenters

ORG-14

Response

The formula did not have an error. The formula is designed to reserve a portion of the water in the uncontracted account to be released in the winter, with the rest divided evenly over the remainder of the year. That amount is added to the reserved amount for the winter.

EIS-22.2 Same or Similar Graphs for the Proposed Action and Alternative 3

One commenter asked why graphs for Alternatives 2 and 3 were the same or very similar.

Commenters

ORG-14

Response

Draft EIS Chapter 3, Section 3.1.3, *Modeling*, described why modeled results for these alternatives were the same despite the fact that Alternative 3 targeted a higher minimum fall/winter flow downstream of Wickiup Dam in above-normal and wet years, than the proposed action. The model inputs have been refined for the Final EIS to better reflect proposed management under the alternatives. The analyses of Alternative 3 in Draft EIS Chapter 3, *Affected Environment and Environmental Consequences*, refer to the proposed action for discussions of impacts related to model changes in water management and discusses how impacts would differ in response to the accelerated implementation schedule and additional conservation measures.

EIS-22.3 Presentation in Section 4.2

The commenter queried if the text in Section 4.2, *Alternative 2: Districts' Proposal*, stating that only locations that experienced a change from the no-action alternative are shown, was accurate.

Commenters

ORG-14

Response

It is accurate that only the locations showing a difference were presented. Although there were also differences in the earlier stage of the referenced alternative, only the final stage of implementation was shown in the Draft EIS appendix. The Final EIS appendix has been updated to present all stages of implementation.

23 RiverWare***Request for Clarification*****EIS-23.1 Little Deschutes Gauge**

One commenter noted that the modeled flow increases showing up at gauge 14063000 on the Little Deschutes River under the proposed action should be consistent with other modeled gauges below Crescent Lake.

Commenters

STATE-1

Response

The flow changes at the Little Deschutes River gauge are similar to the flow changes at Crescent, though it may not always appear that way in the summary graphs due to inconsistent timing of flow timing at the two locations.

The flow changes at the Little Deschutes River gauge are similar to the flow changes at Crescent, though it may not always appear that way in the summary graphs due to inconsistent timing of flow timing at the two locations.

EIS-23.2 Patron Diversions

One commenter requested clarification on how DBBC patron diversions are modeled in RiverWare.

Commenters

TRIBE-1

Response

DBBC diversions are simulated in RiverWare as the recent historical average diversions from the Deschutes River at the point of diversion (or headworks) of the canal systems. The delivery of water along smaller canals and laterals is not simulated, but estimates of losses are routed back to the river as groundwater where appropriate. Section 2.1, *Irrigation Demand Pattern in Final EIS*, Appendix 3.1-B, *RiverWare Model Technical Memorandum*, describes the daily demand pattern and annual volume assumed for each irrigation district.

EIS-23.3 Early Summer Releases for North Unit ID

One commenter requested clarification about why the RiverWare model showed more water released on the Crooked River in early summer for the North Unit ID in dry years.

Commenters

ORG-15

Response

The RiverWare model is designed to reflect real-world conditions where, if there is not enough water to supply North Unit ID from the Deschutes River, it will try to satisfy its demand from the Crooked River. In drier years, Wickiup Reservoir has less water to provide to the North Unit ID, so the water goes to the Crooked River to satisfy its demand. This causes flow from the North Unit ID rental account on Prineville to be used earlier in the season than under the no-action alternative, which would cause reduced flows later in the season. Between the Draft EIS and Final EIS, the team refined the logic to determine how winter flows from Wickiup Reservoir would be calculated and better represent North Unit ID Deschutes River demand in dry years. The Final EIS reflects updated modeling.

Incorporation of Relevant Policies, Agreements, and Protocols**EIS-23.4 Prediction of Future Conditions**

One commenter stated that the RiverWare model fails to reliably predict likely future conditions and requested that the Services describe how decision-making protocols affect the model outputs. The commenter also requested that the Services allow CTWS to help make sure that the RiverWare model incorporates as many relevant policies, agreements, and protocols as possible.

Commenters

TRIBE-1

Response

The RiverWare model simulates legal and policy constraints on the Deschutes River system, where possible, and provides the statistical likelihood of future conditions assuming historical hydrology. It is true that the model cannot predict all future conditions given that hydrology depends on weather and other conditions that are unknown at this time. In some cases, decisions and operations would

be made in real time. All assumptions and input for the model are described in Final EIS, Appendix 3.1-B, *RiverWare Model Technical Memorandum*.

The CTWS is a member of the RiverWare technical team and has had opportunities to ensure all relevant information that can be incorporated into the model assumptions has been appropriately incorporated.

EIS-23.5 Total Maximum Daily Load Standards

One commenter asked if the RiverWare model addressed ODEQ's imperative to promulgate total maximum daily load standards for the Deschutes Basin.

Commenters

TRIBE-1

Response

While the RiverWare model does not simulate water quality parameters the QUAL2Kw model was used to model effects on water quality parameters in the Upper Deschutes River between Wickiup Dam and Tumalo. QUAL2Kw is a one-dimensional water quality model developed by the U.S. Environmental Protection Agency and is available in the public domain (Pelletier et al. 2006). The model was modified to use input data from various sources, including ODEQ. Please refer to the Final EIS, Chapter 3, Section 3.3, *Water Quality*, for additional information on the model and the data sets used. Additionally, water temperature modeling developed for the Deschutes Basin HCP by Portland State University (Berger et al. 2019) for the Crooked River from the City of Prineville to the gauging station at Smith Rock was considered in the fish and water quality analyses. Refer to the Methods section of Final EIS, Appendix 3.4-C, *Fish and Mollusks Technical Supplement*, for a description.

Accuracy of Model

EIS-23.6 Interconnectedness of System

One commenter stated that the RiverWare model fails to consider the interconnectedness of the Deschutes Basin, including how water management in the Upper and Middle Deschutes River affect the Crooked River (specifically how implementation of Conservation Measure WR-1 affects the North Unit ID's reliance on its Crooked River water supply).

Commenters

TRIBE-1

Response

The model does simulate the interaction between the Deschutes and Crooked River supplies for North Unit ID. Please refer to the last paragraph of Final EIS, Section 2.3, *Crooked River Operations* of Appendix 3.1-B, *RiverWare Model Technical Memorandum: Hydrologic Evaluation of Alternatives for the Deschutes Basin HCP*, for additional information for an explanation.

EIS-23.7 Model Outputs below North Unit ID Pumps

One commenter expressed concern that the RiverWare model outputs for the Crooked River below the North Unit ID pumps under the proposed action showing lower flows mid-June through July than the no-action alternative, and less flow all the way through August and September (refer to Final EIS, Appendix 3.1-B, *RiverWare Model Technical Memorandum: Hydrologic Evaluation of Alternatives for the Deschutes Basin HCP*, Figure 50) were not accurate.

Commenters

ORG-10

Response

The results reflect the increased demand on the Crooked River due to lower water availability for the North Unit ID on the Upper Deschutes River and are accurate. The flow past the North Unit ID pumps is often the minimum requirement defined in Final EIS, Appendix 3.1-B, *RiverWare Model Technical Memorandum: Hydrologic Evaluation of Alternatives for the Deschutes Basin HCP*, Table 4, whereas there was more live flow under the no-action alternative than was able to flow past the pumps.

EIS-23.8 Overstatement of Wickiup Winter Releases

Several commenters pointed out that the assumption or formula used in the RiverWare model for fall/winter releases from Wickiup Reservoir under the no-action alternative and proposed action during above-normal water years were too high or inaccurate. The commenters noted that this resulted in unrealistically low water storage available for the subsequent irrigation season, which overstated agricultural effects and related economic effects and skewed other effects. One commenter also presented an alternative approach.

Commenters

ORG-12, ORG-14, ORG-15, ORG-10

Response

Unfortunately, there is no specific formula that would represent releases from Wickiup Reservoir. The river-reservoir models are designed to explore potential future conditions and give an indication of how changes in the system compare to current conditions. They are based on the best available data and information, and for this study, their operating rules and assumptions were vetted and discussed by many experts. No model or formula will perfectly represent future conditions nor should it be expected to do so. Additionally, the results were not used as though they would perfectly represent the future. Rather, the models were used to consider relative changes and possible improvements to the system given historical hydrology. Real-time conditions may require operations to adjust and adapt differently than the model results, depending on changing weather and hydrologic conditions.

The intent of the rule in the Draft EIS was to observe storage contents on November 1 and determine a minimum release value for the upcoming winter. This was designed by the RiverWare modeling team to mimic how real-time operators might make that decision based on historical

experience and new constraints and objectives proposed in the scenario. Between the Draft EIS and Final EIS, the team refined the logic to determine how winter flows would be calculated; this equation is not used in the Final EIS.

One other adjustment was made in the Final EIS to better represent North Unit ID Deschutes River demand in dry years. This rule again looks at Wickiup storage on April 1, the estimated date that the reservoir would be full, and reduces North Unit ID's demand from the Deschutes River. The North Unit ID requested that the total shortage still be compared to the full demand for calculation purposes.

For the no-action alternative in the Draft EIS, the variable outflow equation was used so that the results could be more easily compared to the proposed action and alternatives. Recognizing that this led to higher winter flows than what would occur under the BiOp, this was revised for the Final EIS so that the minimum was 100 cfs unless more water needed to be released to prevent the reservoir from overtopping.

The Final EIS analyses are based on updated RiverWare model outputs that reflect these refined assumptions.

EIS-23.9 Irrigation Demand

Commenters stated that use of a constant irrigation demand pattern in the RiverWare model does not accurately reflect water use that accounts for variation in annual hydrology.

Commenters

ORG-10, ORG-12, ORG-15

Response

River-reservoir models are designed to explore potential future conditions and give an indication of how changes in the system compare to current conditions. They are based on the best available data and information and for this study, their operating rules and assumptions were vetted and discussed by many experts. No model will perfectly represent future conditions, nor should it be expected to do so. Additionally, the results were not used as though they would perfectly represent the future. Rather, the models were used to consider relative changes and possible improvements to the system given historical hydrology. Real-time conditions may require operations to adjust and adapt differently than the model results, depending on changing weather and hydrologic conditions.

It is common practice to select a single pattern of irrigation demand for use in a modeling analysis. The demand patterns were generated from measured data from the years 2010 through 2017 and were chosen as a reasonable estimate of demand because many conservation activities had occurred prior to those years, making them overestimates of current conditions. Demands will continue to change as various conservation projects are implemented, so the shortages expressed in this EIS should be used as relative comparisons from one alternative to the next. Shortages are also therefore likely overstated since expected conservation projects will further reduce demand in the future, but are useful here for analysis purposes.

EIS-23.10 Disclosure of Winter Stock Water Diversions

One commenter stated that the Draft EIS did not include all stock watering diversions.

Commenters

ORG-15

Response

The Draft EIS considered stock watering as it occurred in the average of the measured diversions from 2010 to 2018.

EIS-23.11 Modeled Whychus Creek Flows

One commenter stated that modeled Whychus Creek flows presented in Draft HCP Chapter 6 (Figure 6-53) and Draft EIS Appendix 3.2-A, *Water Resources Technical Supplement*, Figure 44, appear to be higher than the actual flows that would be required instream under the proposed action.

Commenters

ORG-16

Response

The flows in Whychus Creek are the historical flows measured at the Whychus Creek gauge near Three Sisters minus average daily historical diversions for Three Sisters, Sokol, Edgington, and Plainview IDs. They are higher because the diversions did not request more water than what was in the stream; therefore, both the diversion and a higher flow could be maintained.

EIS-23.12 Agency Verification of Data

One commenter requested that the modeling data be vetted, and assumptions validated by FWS and Oregon Water Resources Department.

Commenters

GP-189

Response

The modeling data and assumptions have undergone extensive review by the Services, FWS contractors, Oregon Water Resources Department, U.S. Forest Service, CTWS and DBBC contractors. The assumptions used in modeling the alternatives for the Draft EIS were discussed and vetted at length by members of this group. The final product will undergo a peer review and the results will be posted on Reclamation's peer review website.

EIS-23.13 Incorporation of Canal Piping and Other Management Options

Commenters stated that the RiverWare projections are too conservative (e.g., they do not include future planned construction of piped canals, other management options, and agreements and overestimate irrigation shortages).

Commenters

ORG-5, ORG-10

Response

In general, the effects of district water conservation projects (i.e., canal piping or lining) completed prior to 2014 on streamflow and irrigation diversions were reflected in the RiverWare model outputs (Appendix 2-B, *No-Action and Cumulative Scenarios*, Table 1) used in the Draft EIS. Water conservation projects for which final NEPA review was completed were assumed to be included under the no-action alternative, as described in Draft EIS Chapter 2, *Proposed Action and Alternatives*, but are not included in the RiverWare model. The effects of these projects on streamflows, however, were quantified in the Final EIS analysis outside of the RiverWare model. Following the publication of the Draft EIS, the Central Oregon ID Watershed Plan Environmental Assessment for the Smith Rock-King Way Infrastructure Modernization Project was approved. The effects of this project have now been incorporated into RiverWare for all alternatives, as described in Final EIS, Section 2.4, *Special Diversion Operations*, of Appendix 3.1 B, *RiverWare Model Technical Memorandum*.

The effects of other planned water conservation projects on reservoir storage and streamflows also are not captured in the modeling results. These future projects would improve water supply efficiency and streamflow conditions; however, they were not included as assumptions in the RiverWare model because of uncertainty about where these future projects would be located and timing of their implementation. These factors are essential in determining the extent and timing of their potential effects on basin hydrology in relation to the HCP and associated flow targets. The potential effects of water conservation on irrigation district water supply can be quantified at the point of diversion; therefore, the analysis of effects on agricultural resources (Draft EIS Chapter 3, Section 3.5, *Land Use and Agricultural Resources*) considered a range of potential water conservation, both district and on-farm. However, because it can be assumed that these projects occur in the foreseeable future and effects on basin hydrology may be attenuated or concentrated during periods of low flow in different reaches of the Upper Deschutes Basin (depending on how water is conserved, hydrologic conditions, and other factors), the effects of these changes on resources were evaluated qualitatively in the cumulative analysis (Draft EIS Chapter 4, *Cumulative Impacts*).

Request for Additional Information or Analysis**EIS-23.14 Extended Period of Dry Years**

One commenter expressed concern that the RiverWare model did not examine extended dry year periods. The commenter noted extended dry years are of particular concern in the Crooked River where fish species are vulnerable during the irrigation season, especially during the later stages of the permit term during normal and dry years and with increasing likelihood with climate change.

Commenters

ORG-14

Response

The model considered historical hydrology from 1980 to 2009 in the Draft EIS and from 1980 to 2018 in the Final EIS, which did not have many dry year sequences on the Crooked River, though it did have one in the early 1990s. The results from this particular dry period were used to better refine the logic for use and carryover of the FWS uncontracted water.

EIS-23.15 Model Simulation Period

Commenters stated that the model should have included a longer simulation period to better reflect median hydrologic/meteorological and operational conditions.

Commenters

ORG-15

Response

River-reservoir models are designed to explore potential future conditions and give an indication of how changes in the system compare to current conditions. They are based on the best available data and information and for this study, their operating rules and assumptions were vetted and discussed by many experts. No model will perfectly represent future conditions, nor should it be expected to do so. Additionally, the results were not used as though they would perfectly represent the future. Rather, the models were used to consider relative changes and possible improvements to the system given historical hydrology. Real-time conditions may require operations to adjust and adapt differently than the model results, depending on changing weather and hydrologic conditions.

Daily measured data prior to the 1980s has limited availability and is less complete and therefore has more uncertainty. For the Draft EIS, the run period was 1980 through 2009; the 1984 through 2009 period was used for calibrating initial reservoir rules, which has since been edited to reflect more current conditions in the basin and potential conditions under the proposed action and alternatives. The run period was extended to 1980 through 2018 for the Final EIS model runs. The run period used in the simulation, therefore, has a fair degree of climate variability and wet/dry climate cycles.

It is common practice to select a single pattern of irrigation demand for use in modeling analysis. The most recent 10 years was chosen as a reasonable estimate of demand because many conservation activities had occurred prior to those years, making them overestimates of current conditions. Demands will continue to change as various conservation projects are implemented, so the shortages expressed in this EIS should be used as relative comparisons from one alternative to the next.

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Attachment 2

**RESPONSES TO COMMENTS ON THE FINAL EIS
FOR THE
DESCHUTES BASIN HCP
KLAMATH, DESCHUTES, JEFFERSON, CROOK, WASCO,
AND SHERMAN COUNTIES, OREGON**

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Summary of Commenters

- U.S. Environmental Protections Agency – Federal Agency (EPA, 4 December 2020)
- Trout Unlimited – Non-Governmental Organization (TU, 11 December 2020)
- Central Oregon LandWatch – Non-Governmental Organization (COLW, 11 December 2020)

EPA Comments

1. Adaptive Management Measure OSF-1

“In our Draft EIS comments, we emphasized the importance of describing the amount of funding needed for biologists to adequately complete annual OSF effectiveness monitoring and adaptive management measures at all known and potentially new OSF sites for the duration of the DBHCP. While we appreciate the inclusion of Adaptive Management Measure OSF-1 and its increase of annual monitoring funding to 240 hours per year (120 hour per biologist) (DBHCP p. 7-13), the USFWS did not provide a response on why this amount of funding would be adequate or why the amount was capped at 240 hours.

In addition, we note that no new effectiveness monitoring funding was included in the Final DBHCP for Chapter 10’s “Contract Services for Monitoring.” While the Final DBHCP includes new commitments from the North Unit and Tumalo Irrigation Districts (DBHCP p. 10-5 and 10-9, respectively), this funding is earmarked for compliance/implementation monitoring. Therefore, it is unclear how OSF-1 would be funded and what financial commitment is needed for Adaptive Management Measure WR-1.3, which requires the development and implementation of a variable flow tool.

As OSF habitat changes over time due to implementation of the covered activities and climate change (p. 4-9), robust and complete OSF effectiveness monitoring and adaptive (*sic*) management will be essential to demonstrate that the project will not exceed Incidental Take Permit take levels and that the DBHCP’s overarching OSF biological goals and objectives are being achieved. Therefore, we recommend that the USFWS more thoroughly evaluate the appropriateness of funding for OSF-1 and WR-1.3. We further recommend that any conclusions presented in the ROD concerning these adaptive management measures explain the rationale behind the decisions. Additionally, we request that the 240-hour cap is eliminated and instead that the ROD commits the USFWS to annually evaluating the amount of funding needed based on the prior year’s monitoring.” (EPA, 4 December 2020)

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USFWS reply

The U.S. Fish and Wildlife Service (USFWS) coordinates the Oregon spotted frog (OSF) egg mass monitoring effort each spring. The existing OSF monitoring network includes USFWS, U.S. Forest Service, U.S. Geological Survey, Bureau of Land Management, Oregon Department of Fish and Wildlife, and private contracted biologists. All OSF sites are not monitored in all years due to weather and access issues. Each year a monitoring strategy is developed by USFWS, USFS and USGS; and deployed by the network biologists based on the current conditions. The commitment in the DBHCP provides the necessary additional field staff to support the annual OSF monitoring effort. All biologists monitoring OSF sites require training and must be listed on an ESA Section 10(a)(1)(A) permit.

Development of the variable flow tool will be led by state and federal agency scientists. Additional funding is not needed for this item.

Funding commitments in HCPs require specificity. Including a measure that requires “all necessary funding” for monitoring of all OSF sites each year would be highly unpredictable and difficult to implement, and is not warranted.

2. Adaptive Management Measure CP-1.2

“According to the DBHCP, Adaptive Management Measure CP-1.2 would provide qualified biologists to monitor for signs of stranding of OSF tadpoles, juveniles and adults during Crane Prairie Reservoir drawdown for the first two years of the project and for two years out of 10 thereafter (DBHCP p. 7-14). However, it is unclear why biologists would not be provided annually since “the timing of metamorphosis in Crane Prairie Reservoir is based on a limited number of direct observations since 2013” and there is the possibility each year that “some OSF larvae may not complete metamorphosis and be capable of moving during reservoir drawdown in late July” (DBHCP p. 7-14). In the absence of scientific evidence on the timing of OSF metamorphosis, the proposed frequency of monitoring appears inadequate. We recommend that the ROD and DBHCP commit to annual monitoring of OSF stranding until the hydrograph maintains a more stable water interface, as confirmed by USFWS.” (EPA, 4 December 2020)

USFWS reply

The measures that adjust the timing and duration of water within the wetlands at Crane Prairie Reservoir have been implemented since 2017. Oregon spotted frogs survey results since 2017 indicate the stabilization measures are providing conservation benefit to the OSF, thus allowing greater prioritization on other OSF sites for additional monitoring.

Trout Unlimited Comments

1. Transparency – Public Information – Progress Reporting

“The final HCP does not provide adequate and on-going opportunities for public tracking of actions taken by the applicants toward meeting conservation measures. Chapter 7 of the HCP states that “all monitoring, reporting and adaptive management results will be compiled in the DBHCP annual report delivered to the Services, by January 31 of each year, with the first annual report due January 31, 2022.” Reporting will include “any difficulties/deviations encountered implementing” the conservation measures. There are several exceptions for reporting of short-term deviations from compliance allowances. By limiting the reporting of HCP implementation to an *annual* report, real time issues affecting implementation of the conservation measures will not be known until after the fact. To maintain public trust and provide for greater public awareness, we ask that all reports and related documents relevant to the implementation of conservation measures of the HCP be made readily available to the public as they are submitted to USFWS. Toward this end, USFWS should establish and maintain a website that catalogues these documents as they are provided by the applicants. Given the amount of public investment via PL 566, this level of disclosure should be mandatory. Further, to improve transparency and public understanding of the quality and effectiveness of conservation measures, we ask that the HCP progress report be submitted on a semi-annual rather than annual basis.” (TU, 11 December 2020)

USFWS Reply

USFWS has an existing Deschutes Basin HCP website, <https://www.fws.gov/Oregonfwo/articles.cfm?id=149489716>. All HCP annual monitoring reports will be posted on the website when complete. To the extent practicable, USFWS will share interim reports, notifications, or other related materials on this website. Annual reporting is consistent with implementation of the measures, especially since any significant deviations will require immediate USFWS notification.

2. Conservation Measure WR-1

“The above transparency provision is particularly important in regards to conservation measure WR-1 because of the possibility of annual incremental winter flow increases above the specified minimums on the upper Deschutes. The HCP states that winter flows may be increased above the specified minimums under two conditions: 1) whenever inflow to the reservoir in a given year is predicted to be more than enough to fill the reservoir; 2) for years 1-7, minimum winter flow shall be increased above 100 cfs in proportion to the amount of live Deschutes River flow made available to NUID during the prior irrigation season as a result of piping of COID-owned canals. As stated, for each acre foot of live flow made available to NUID as a result of COID piping, an equal volume of water shall be added to the minimum winter flow from Wickiup.

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Condition 1 is not likely to occur as discussed in the HCP on page 6-37. Given the fact that “it [Wickiup] will be more likely to end the season with little or no remaining storage,” history has shown that there is very little chance that Wickiup can overcome this starting deficit to actually fill in any given year. This leaves Condition 2 as the only/best option for increasing flows above the stated minimum. Understanding how the applicants are progressing toward increasing these minimum flows is essential to gaining the public’s support for the HCP. This can only be done through an on-going and public reporting mechanism as described above (see comment #1).” (TU, 11 December 2020)

USFWS Reply

The DBHCP’s reporting requirements for Conservation Measure WR-1 requires annual reporting documenting the volume of water relative to Condition 2.

Each year beginning in Year 1 of DBHCP implementation NUID will report on the volume of water NUID has obtained as live flow from COID on a permanent basis in that year, and the volume of Wickiup Reservoir storage NUID has subsequently converted to instream flow or otherwise made available to support winter minimum flows at WICO required under Conservation Measure WR-1. This information will be included in the DBHCP annual report provided to the Services by January 31 of each year. (DBHCP, Ch. 7, 7.2.2.1).

3. Changed Circumstance Pertaining to Year 8 and Year 13 Upper Deschutes Flows

“Also regarding Conservation Measure WR-1, in years 1 -7, the HCP states that “no changed circumstance shall exist ...”, however, in future years (years 8 and 13) the HCP states that *a changed circumstance shall exist when a funding shortfall or legal challenge prevents COID from making at least 60,000 acre ft in year 8 (or in the case of year 13, 90,000 acre ft) of replacement water available to NUID.* This language undermines the credibility of WR-1 as a long-term and legally binding commitment by the applicants to return flows to the upper Deschutes River with date certainty. There is no language in the HCP that defines either “funding shortfall” or “legal challenge”. It effectively converts what should be a mandatory hard target for returning flows, to a permissive option in terms of meeting longer range flow objectives. We believe that, like flows in years 1 – 7, flows in years 8 and 13 should not be subject to changed circumstance provisions.” (TU, 11 December 2020)

USFWS Reply

The *changed circumstances* mentioned were designed to address the uncertainty on the part of the applicants when committing to earlier onset of higher flow requirements in the Upper Deschutes (WR-1). These measures provide needed flexibility for a short-term duration that does

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not undermine the ability of the DBHCP to meet permit issuance criteria or otherwise affect the USFWS' ability to approve the DBHCP.

4. Variable Flow Tool

“Pages 6-20/21 and Section 7.3.3 of the HCP discuss development of a “variable flow tool” which is intended to determine actual winter flows from Wickiup beginning in year 13. The HCP goes on to state that a prototype of this tool will be developed by the end of year 10 of HCP implementation. The tool will model available storage in Wickiup and anticipated inflow to the reservoir during the storage season. The HCP states that the target reservoir storage volume at the end of the storage season is at least 92,000-acre ft. A tool like this is fundamental to managing Wickiup storage and flows into the upper Deschutes. It is remarkable that such a tool, acceptable to all the applicants and regulatory agencies, is not already in place. Accordingly, the final HCP should accelerate development and adoption of this variable flow tool with a target of year 8 for full implementation of this model...at the latest. Again, public involvement in this model development process must be assured.” (TU, 11 December 2020)

USFWS Reply

The Oregon Water Resources Department uses an existing tool to predict reservoir fill levels and outflow recommendations. Given the many changes to Wickiup Reservoir flow management under the DBHCP, it was determined that a new, updated tool would be appropriate for future use. The new tool is scheduled to be designed by year 10 of the DBHCP, so the parties involved can best design the tool for years 13-30 (when outflows from Wickiup Reservoir will be variable between 400-500 cfs) based on an up-to-date understanding of Wickiup Reservoir management. Development of the variable flow tool is a technical process that will include experts in hydrology and water management; USFWS will commit to keeping the public informed on this process through its website and existing local stakeholder meetings.

5. Turbidity and Future Wickiup Storage Management

“The September 2020 drawdown of Wickiup Reservoir to an unprecedented 1% of storage capacity resulted in a two-week discharge of sediment that created an unacceptably high level of turbidity (*sic*) throughout the 55-mile reach of the Deschutes, from Wickiup to Bend. It is believed that this level of sediment discharge over this long a time period has never happened before. Preliminary analysis indicates that sediment build-up within the old Deschutes River channel in Wickiup Reservoir was eroded and transferred through the headworks of the dam by the live flows of the Deschutes. By reducing storage to 1%, these sediments became exposed to the erosive force of the Deschutes River live flows. Later in September, when storage was allowed to increase above 1%, the turbidity was reduced. The resulting impacts on OSF habitat are not known, but future Wickiup storage management decisions must consider this year's turbidity event and not allow it to be repeated.

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In addition, if drawing down Wickiup to low levels becomes routine, we are concerned about the impacts on the OSF due to predatory fish (brown trout and bullhead) being flushed out of the reservoir and into the upper Deschutes.

With hard metrics guiding adaptive management, deep draw-downs of Wickiup should be analyzed for their effects on meeting the biological goals and objectives. This analysis should then drive any necessary modifications to the conservation measures for continued species protection. Ideally, such information gathering and analysis would be shared with the public to promote transparency and provide assurance of species protection.

The final HCP must consider BOTH water quantity and water quality impacts in adopted conservation measures regarding Wickiup and the upper Deschutes.” (TU, 11 December 2020)

USFWS Reply

The September 2020 Wickiup Reservoir drawdown brought reservoir levels to historic lows, leading to discharge of sediment and potentially non-native fish into the Upper Deschutes River. While the sediment was visibly noticeable, we do not have any indication that sediment releases during that late summer/early fall impact OSF. Unlike fish, OSF are able to bask outside of the water and have the ability to breathe air at this time of year. OSF typically inhabit the slough habitats within and adjacent to the river where deposition of sediment is a component of their habitat that provides cover to escape predators.

The Service recognizes that non-native fish such as brown bullheads could impact OSF. We intend to coordinate with ODFW on the issue and use the Upper Deschutes Conservation fund, where appropriate, to reduce non-native fish that could cause harm to OSF.

6. Return Flows and Water Quality

“Trout Unlimited’s 12/3/19 comments on the draft HCP emphasized concerns regarding water quality impacts from irrigation return flows. These return flows impact water quality to the Crooked River as well as tributaries of Trout Creek. The two irrigation returns operated by NUID to Trout Creek are particularly critical because of its status as the key salmonid rearing and steelhead spawning stream in the lower Deschutes River. It is imperative that everything possible be done to restore and protect this “designated critical habitat”. NUID is responsible, in part, for the cumulative water quality impairment that is occurring and therefore has some responsibility to mitigate that impact. NUID should be a partner in a comprehensive program to rehabilitate this stream particularly regarding agricultural runoff, habitat rehabilitation and water temperature. The language in the final HCP repeating the draft HCP’s mantra that “...conditions will not change under the DBHCP” with regard to steelhead spawning, migration, egg incubation or winter rearing is not the basis for scientific assurance nor a collaborative partnership with NGOs or the public. Simply reciting that the timing of irrigation return flows makes them a “net benefit” to overall water temperature and water quality is not based on the best available information. Stating that agricultural pollutants contained in return flows are not NUID’s

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responsibility does not further the cause of conservation groups and irrigation districts working together for a common goal. While the three conservation funds established through the HCP for the upper Deschutes River, Whychus Creek and Crooked River would be useful models for Trout Creek both in terms of steelhead recovery and public partnership; all of the conservation funds should address water quality. We recommend a separate Trout Creek conservation fund that addresses improved steelhead spawning and Trout Creek water quality. This fund's activities and progress toward improved water quality in Trout Creek should be reported annually to the public." (TU, 11 December 2020)

USFWS Reply

Steelhead are under the jurisdiction of the National Marine Fisheries Service (NMFS); USFWS forwarded your comment letter to our colleagues at NMFS. The USFWS is not making a decision concerning the requested incidental take permit for steelhead in this ROD.

Central Oregon LandWatch comments

- 1. The Final HCP's delay until year 8 to improve winter flows in the Upper Deschutes is a significant change from the Draft HCP and will exacerbate ongoing harm to the covered species.**

"The Final HCP/FEIS proposes to provide no additional winter streamflows to the Upper Deschutes until year eight, meaning that winter flows of 100 cfs would continue for seven years. This represents a significant change from the draft, which proposed flows of 200 cfs by year six. Presentation of this significant change in the Final HCP/FEIS without a formal opportunity for public review is contrary to NEPA. A supplemental EIS should be prepared to provide the public an opportunity to understand and comment on this change.

As LandWatch's 12/03/2019 Comments detailed, achieving higher winter flows more quickly is both practicable and necessary to support the survival and recovery of the Oregon spotted frog. The apparent justification for not improving winter flow targets sooner is that ramping up flows would harm Oregon spotted frog populations. HCP at 6-24 ("a complete return to natural flows would have a negative impact on Oregon spotted frog habitats[.]") We find no support for this conclusion in the HCP or FEIS as to winter flows. With current winter minimum flows of 100cfs, it is easy to observe that no emergent vegetation that would support Oregon spotted frog habitat exists at the at water line. Figure 1, below, shows how vegetation along the Upper Deschutes is already disconnected or "perched" from the water line during winter months. While high flows without appropriate caps in the summer can impact this vegetation, increasing winter flows sooner would not impact this disconnected habitat and in fact would help reconnect it sooner.

If there were support for the proposition that increasing winter flows could harm existing Oregon spotted frog habitat, then flows could be increased gradually starting in year 0, perhaps at 50 cfs per year. This could be accompanied by corollary decreases to summer maximum flows, and

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would allow existing emergent vegetation to slowly “migrate” to the more stable year-round flows that the HCP should accomplish at the end of its term.” (COLW, 11 December 2020)

USFWS Reply

Flows in the Upper Deschutes out of Wickiup Reservoir begin to demonstrate a beneficial effect to the OSF above 300 cfs. There is little to no biological difference to the OSF between 100 cfs and 200 cfs, therefore the revised proposal to move directly to the 300 cfs in year 8 (earlier in the permit term than previously proposed) provides more conservation benefit to the species than stepping up in smaller increments earlier in the permit term. Similarly, stepping up to 400-500 cfs earlier in the permit term (by year 13), and therefore for a longer duration (years 13-30), more than offsets the early year low flows that will persist in years 6 and 7. All other conservation measures (spring breeding flows, ramping rates, conservation fund projects) will all begin immediately and will begin to minimize the adverse effects to the OSF, thus providing the species with early conservation gains until the increased flows are realized.

A range of flow levels were analyzed in the DEIS and FEIS under various alternatives, providing the public the opportunity to review and comment on various flow schedules and conservation measures. The conservation measures included in the final DBHCP are within the range of alternatives analyzed in the DEIS. A supplemental EIS is thus not required.

2. Caps on Upper Deschutes summer flows are unnecessarily delayed and accompanied by a major loophole.

“Conservation measure WR-1 in the HCP now includes caps on summer flows in the Upper Deschutes that begin in year eight and increase in year 13. HCP at 6-20. As an initial point, caps on summer flows should begin in year zero. Capping summer flows will immediately help preserve Oregon spotted frog habitat, and will support maintenance of minimum winter flows by increasing the chance that stored water is not depleted at the end of irrigation season.

Even when the summer caps do begin in year eight, though, they are accompanied by a glaring loophole. HCP at 6-20 (“Beginning no later than Year 8 of DBHCP implementation, flow at WICO shall be at least 300 cfs from September 16 through March 31, and **not more than 1,400 cfs for more than 10 days per year** between April 1 and September 15.”) (emphasis added). Allowing ten days per year of deviations from summer caps could wash away critical Oregon spotted frog habitat, and would likely allow ongoing bank erosion to persist and become a major obstacle to the reestablishment of the riparian vegetation that Oregon spotted frog require for successful breeding.

This loophole is presented without rationale or justification for how it is needed to meet the HCP’s conservation goals. The FEIS fails to present the impacts of this loophole on the affected environment and the covered species. The HCP also fails to identify thresholds within which the 10-day summer cap loophole would be acceptable. Will these exceedances be 10 cfs or 500 cfs? Without providing this information, the HCP and FEIS fail disclose and analyze the environmental effects of this summer flow cap loophole. The Services should prepare a supplemental EIS accompanied by meaningful opportunity for public comment on this loophole.” (COLW, 11 December 2020)

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USFWS Reply

Providing flexibility on the summer flow caps (WR-1) is not a loophole but rather a mechanism that allows for some higher flows when necessary, while recognizing the long-term goal to reduce high summer flows that are detrimental to physical elements of OSF habitat. While the long-term goal is to reduce summer water inundation depths in the Upper Deschutes wetlands to promote emergent vegetation growth (i.e., breeding and rearing habitat for OSF), high summer flows may be necessary at times to support existing populations of OSF. These high summer flows that have existed since the construction of Wickiup Dam have provided a level of inundation within wetlands adjacent to the Deschutes River that support populations of spotted frogs. Some wetlands where spotted frogs occur receive supplemental water from high irrigation flows that sustain OSF through the entire life cycle.

The summer caps were added as a result of public comment, including those from Central Oregon LandWatch. While inclusion of the summer caps will support OSF conservation, it does not represent a substantial changes to the proposed action that are relevant to environmental concerns. A supplemental EIS is thus not required.

3. Variable flow tool

“The final HCP introduces a variable flow tool at Conservation measure WR-1 and Section 7.3.3, *Wickiup Reservoir and Upper Deschutes River* that will “be used to establish the September 16 to March 31 minimum flow at WICO each year based on available storage in Wickiup Reservoir at the beginning of the storage season and anticipated inflow to the reservoir during the storage season.” HCP at 6-21.

Relying on available storage in Wickiup at the beginning of the storage season ignores the fact that the river is badly over-appropriated. Six irrigation districts vie for Deschutes Basin water and there are enough existing water rights to drain Wickiup Reservoir every year. The districts are entirely in control of the amount of remaining storage at the end of the irrigation season. Under this variable flow tool, there would be a strong disincentive to save stored water and 500 cfs of winter flow would rarely, if ever, be achieved.

LandWatch argued in our DEIS comments for real variable flow targets – ones established each year based on water year that would provide more streamflow in good years and less in dry years. The historical record indicates that in normal to wet years the upper basin generates far more water than Wickiup can store, often resulting in dam operators dumping water in February or March. The variable flow conservation measure presented in the HCP completely ignores the large variability of annual water supply in the Upper Deschutes.” (COLW, 11 December 2020)

USFWS Reply

Annual flow releases out of Wickiup Reservoir can be increased at any time in the permit, specifically in wet years. Conservation measure WR-1(L) requires monthly coordination on implementation of the WR-1 measure, which allows in-season adjustments to address the

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variability in the system. The variable flow tool is designed to recognize that future irrigation demand will be reduced after irrigation modernization and conservation projects are completed. Specifically, the future minimum reservoir storage volume target - at the end of the storage season, after winter releases – is 92,000 acre-feet. The current storage volume target is 200,000 acre-feet.

4. The allowed deviations from Upper Deschutes minimum flows at the WICO gauge in the HCP/FEIS are unnecessary.

“New to the HCP but absent from the Draft HCP/DEIS is Table WR-1 which includes a column called “Allowable Range of Deviation.” HCP at 6-22. The values in this column allow the covered parties to deviate from otherwise required streamflows. For the WICO gauge just below Wickiup, a deviation of 10 cfs in minimum winter flows is allowed for years 1-7 and 20 cfs for years 8-12. The outflow from Wickiup is calibrated reasonably precisely and there is no legitimate reason for deviation from mandatory flows just below Wickiup, where none of the other factors stated at HCP page 6-32 are present. With this allowed deviation at WICO, nothing will prevent the covered parties from maintaining winter flows of 90 cfs (years 0-7) or 280 cfs (years 8-12) all winter instead of the 100 cfs and 300 cfs “mandatory” flows otherwise required. To put these deviations in context, COID is spending about \$42 million public dollars to pipe an 8-mile segment of its Pilot Butte canal, conserving about 30 cfs of water. The HCP’s allowed deviations of 10-20 cfs at WICO are absurd when they can be prevented at no cost through the Wickiup dam’s precise outflow control system.” (COLW, 11 December 2020)

USFWS Reply

All gauges have acceptable limits of confidence, and all allowable ranges of deviation were established recognizing gauge sensitivity and species responses. The allowable ranges of deviation acknowledge gauge variability and provide strict metrics for compliance and non-compliance.

5. The reliance on some methods of water conservation as HCP conservation measures, but not others, is arbitrary and capricious.

“The proposed action’s conservation measures now include some methods of water conservation expected to aid the covered parties’ ability to meet streamflow targets in the Upper Deschutes. Specifically, piping of district-owned canals in Central Oregon Irrigation District is part of conservation measure WR-1 F. HCP at 6-20 (“For each acre-foot (or portion thereof) of live flow made available to NUID as a result of the piping of COID owned canals after the date of incidental take permit issuance, an equal volume of water shall be added to the minimum flow below Wickiup Dam from September 16 through March 31.”)

The covered parties have many methods of water conservation at their disposal. As our DEIS comments including the Heisler expert report demonstrated, some of those methods are far more efficient, more inexpensive, and more practicable than others. The final HCP and FEIS approve one method of water conservation – piping of district-owned canals – as an appropriate measure

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for minimizing and mitigating take of covered species. Yet the other methods of water conservation are not considered.” (COLW, 11 December 2020)

USFWS Reply

Many different conservation tools will need to be deployed to achieve the flow targets established in the DBHCP. Piping of COID canals was specifically called out to ensure that all water conserved using this method will be used to achieve the targets established.

As described in the ROD, the USFWS has determined that the proposed DBHCP, including the proposed conservation measures, meets permit issuance criteria under section 10(a)(2)(B) of the ESA.

6. WHYCHUS CREEK

“The Final HCP’s conservation measures for Whychus Creek fail to provide new benefits for listed species and are insufficient to meet the ESA’s requirement that the HCP minimize and mitigate to the maximum extent practicable the impacts of the covered parties’ take.

I. Flows

As compared to the Draft HCP, the Final HCP’s Objective 1-A for Whychus Creek proposes weaker habitat conditions for the covered species. Whereas the Draft HCP called for “increase [in] streamflow,” Draft HCP at 6-63, the Final HCP only requires the covered parties to “[m]aintain increased instream flows in Whychus Creek during the irrigation season above historical (pre 2010) levels.” HCP at 6-76 (emphasis added). Simply maintaining existing flows in Whychus Creek will ensure ongoing harm to the covered species will continue. Further, these existing streamflow targets are not tied to needs of fish. They appear to be only tied to what Three Sisters Irrigation District (TSID) has previously dedicated for instream use pursuant to state law. The Endangered Species Act requires more. Conservation measure WC-1 references past actions and does not propose new conservation for Whychus Creek: “Three Sisters Irrigation District (TSID) will pass all water the District has converted to permanent instream water rights on Whychus Creek (currently 31.18 cfs) at its diversion. In addition, TSID will pass all water required under Oregon water law to senior water right holders downstream of the TSID diversion (currently 3 cfs), for a combined minimum flow past the TSID diversion of 34.18 cfs.” (HCP at 6-77).

Although stated differently as compared to the Draft HCP, this conservation measure again proposes no new water conservation for Whychus Creek. The work and funding that previously resulted in conversion of irrigation water rights to instream water rights has already occurred, and should be included as part of the current conditions and baseline information, not as a prospective conservation measure. Further, the 34.18 cfs referenced in WC-1 is paper water, not wet water, and will not result in actual flows of that amount. This is because the instream rights have to be shared proportionally with irrigation rights and Whychus Creek never has sufficient flow in late summer to serve all the water rights. Every year, usually beginning in the second half of July, the water rights are regulated down, and fish suffer due to deficient flows. HCP Objective 1-C is to “[s]upport efforts to increase summer instream flows, decrease peak summer temperatures and enhance habitats for covered species in lower Whychus Creek.” HCP at 6-76.

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The rationale for this objective states that “Objective 1-C directs TSID to support ongoing efforts by the Upper Deschutes Watershed Council (UDWC), Deschutes River Conservancy (DRC) and others to reduce peak temperatures (as indicated by maximum 7-DADM of $\leq 20^{\circ}\text{C}$ at RM 6.0) by increasing instream flows and improving physical and biological habitat conditions.” HCP at 6-76. Supporting the work of other organizations will not result in enforceable, guaranteed minimization and mitigation of take of the covered species. Other organizations are not covered parties, and TSID cannot take credit for conservation measures to be fulfilled by other parties that would not be subject to any incidental take permits. TSID is the largest of several parties diverting water from the creek, and it holds about 78 percent of the water rights for the creek.

TSID’s approximately 150 cfs in water rights and the potential to transfer some of those water rights to instream use outweighs any other restoration option on the creek by a long shot. Temperatures of 20 degrees C at river mile 6 is a good goal, but it cannot be achieved by the DRC and UDWC without more instream flow below TSID’s diversion. TSID needs to establish a minimum flow of 49 cfs to achieve the 20 degree C target. Similarly, conservation measure WC-4 states that “TSID will assist with the piping of patron owned canals (patron laterals) within TSID.” HCP at 6-78. This is also speculative, imposes no requirements on the covered party (TSID), and instead relies on the work of others (private patrons). There are no guarantees that piping of patron-owned canals will happen, nor are there guarantees that any resulting conserved water will be transferred to instream use.

II. Temperature

New to the Final HCP is a section in Chapter 9 called “9.10 Change in the Status of Whychus Creek.” This section begins by stating that incidental take coverage for steelhead trout is contingent on continually decreasing water temperatures in Whychus Creek:

“Incidental take coverage for steelhead trout on Whychus Creek is based on the presumption that peak summer water temperatures in the creek will continue to decrease over time as a result of increases in instream flows as well as ongoing and future habitat enhancement activities funded by TSID and others the need for decreasing water temperatures in Whychus Creek to support recover of steelhead.” (HCP at 9-10, 9-11). This presumption of decreasing stream temperatures has already proven false. TSID canal piping was largely completed by 2015. TSID’s stated position since then has been to keep a minimum flow of 20 cfs below its diversion, the minimum flow established under the HCP. At this flow, the Creek already reaches temperatures far above 20 degrees C for much of the summer.

Section 9.10 then mandates temperature monitoring and the possibility that TSID will lose incidental take coverage if temperatures do not decrease after the first 10 years of the HCP period. TSID should not be allowed 10 years to decrease temperatures when they have committed no more water instream. Modeling by UDWC indicates that streamflow is the dominant effect on stream temperature. 80% of temperature change is attributed to stream flow and only 20% to air temperature. Maintaining a minimum flow of 20 cfs, without additional instream flow commitments from TSID, cannot possibly achieve the 20 degree C target. We already know that the 20 cfs minimum flow does not achieve the 20 degree C target. As TSID has maintained 20 cfs instream over the past five years, temperatures at RM 6 have far exceeded this target already. For example, temperature data from the UDWC shows that in the summer of 2018 temperatures at RM 6 exceeded 20 degrees C from June 21st to August 21st,

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2018. They exceeded 24 degrees C from July 13th and July 31st, 2018. In the summer of 2019, temperatures exceeded 20 degrees C from July 7th to September 5th, 2019 and exceeded 24 degrees C from July 29th to August 6th, 2019. There is no need to wait ten years to evaluate the effects of TSID's minimum flow. Furthermore, habitat restoration by UDWC and flow restoration by the DRC cannot be expected to cool temperatures sufficiently given the extremely warm temperatures (> 24 degrees C) being experienced today under TSID's 20 cfs minimum flow. And air temperature increases projected under all climate change scenarios only makes this worse. If decreasing water temperatures in Whychus Creek is a key component of TSID receiving incidental take coverage, then it should be included as a conservation measure in Chapter 3 of the HCP. Placing this discussion of water temperature in Chapter 9 Changed and Unforeseen Circumstances indicates that temperature standards are not enforceable minimization and mitigation conservation measures for which TSID cannot receive credit for meeting its ESA obligations.

These changes on the treatment of Whychus Creek in the Final HCP/FEIS are significant and are presented to the public for the first time in the Final project documents without opportunity for public review and comment. The Services should prepare a supplemental EIS accompanied by formal opportunity for public comment.” (COLW, 11 December 2020)

USFWS Reply

Incidental take permits are by definition permits that authorize incidental take of ESA-listed species. Adverse effects to bull trout from temperature are documented in the USFWS' biological opinion, however they are offset by other conservation measures for bull trout in the DBHCP.

Changes to the language in the final HCP recognizes that many of the measures that were proposed have already been implemented. The DBHCP has been in development for over 12 years, it is not surprising that some of the measures proposed have already been implemented given this long planning process. The final HCP was updated to ensure all projects that have been completed are documented, and all flows that will provided are accurately calculated and shared with the public.

Comments regarding the updated *changed circumstances* section relate to steelhead conservation and were added as a result of public comment, including those from Central Oregon LandWatch. Inclusion of the *changed circumstances* is an improved mechanism to evaluate effectiveness of the conservation strategy, and does not represent a substantial changes to the proposed action that are relevant to environmental concerns. A supplemental EIS is thus not required.

7. RiverWare Model

“In the updated FEIS RiverWare model, some HCP conservation measures and other anticipated methods of water conservation are included, while others are not. The effects of the covered parties' water conservation projects completed before 2014 on streamflow and irrigation

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diversions—like certain canal piping and lining projects—are reflected in the RiverWare model outputs. *See* FEIS Appx. 1-E Response to Comment at 264. Additionally, the future COID Watershed Plan Environmental Assessment for the Smith Rock-King Way Infrastructure Modernization Project’s effects have been incorporated into the FEIS RiverWare model. *Id.* Other Conservation Measures, however, are not incorporated into the model; this includes water conservation projects for which final NEPA review was completed. *Id.* This decision to exclude certain projects but not others is not thoroughly explained and is thus arbitrary and capricious.

To try and account for the exclusion of these conservation measures from the RiverWare model, the agency states that “effects of these projects on streamflows . . . were quantified in the Final EIS analysis outside of the RiverWare model.” *Id.*

The only Conservation Measure explicitly named and included in the RiverWare model was WC-1 and the addition of 3.0 cfs to Whychus Creek. The FEIS states that “effects related to other conservation measures for Whychus Creek [Conservation Measures WC-2 through WC-7] were evaluated qualitatively” and thus not included in the RiverWare Model. FEIS at 3.2-3. No other explanations are provided for why this measure alone was included in the RiverWare model.

Additionally, glaringly missing from the model are the potential effects of climate change on surface water, ground water, and the water supply. These were only assessed “qualitatively” and thus not included in the final RiverWare model. FEIS at 3.2-4. The available tools for modeling climate change impacts are numerous and comprise the best available science. Omitting any quantitative analysis is inconsistent with the Service’s legal duties.” (COLW, 11 December 2020)

USFWS Reply

USFWS, our NEPA contractor (ICF) and the cooperating agencies did an extensive review to determine which projects should be included in the RiverWare model and which were best evaluated outside of the model. Not all projects or conservation measures are appropriate for inclusion in a quantitative hydrologic model. For example, WC-2 through WC-7, which are measures requiring fish screen maintenance, support for in-stream leasing programs, and other non-flow specific topics do not lend themselves to inclusion in a quantitative hydrologic model. Please see the *FEIS, Volume I, Chapter 3, subsection 3.1.2.1* for a description of which projects were included in the hydrologic modeling. For more information on projects that were included in the *No Action* and *Cumulative Effects* analysis please see the *FEIS, Vol II, Part A, Appendix 2-B*. Projects that were already completed were considered in the *No Action* alternative.

USFWS and our hydrologic modeling colleagues at the U.S. Bureau of Reclamation (Reclamation) sought quantitative information to incorporate climate change effects into the RiverWare model, however existing data sources do not capture the physical processes that occur in the Deschutes Basin, therefore climate change effects were analyzed outside of the model Please see *Attachment 1, Response to Comments on the DEIS, Comment EIS-3.24* for more information regarding data sources available for climate modeling.

8. 2017 BIOP

“USFWS’s 2017 BiOp for the Upper Deschutes calls for flows in the Upper Deschutes of 600 cfs to meet the needs of the covered species. Although the final proposal calls for reaching 400-500 cfs flow more quickly than the draft (by year 13 as opposed to year 21) this proposal still falls short in terms of flows and timing. The science underpinning the analysis that informed the 2017 BiOp has not changed. Without planning to achieve 600 cfs flows, the HCP continues to fall short of meeting the requirements of the ESA to ensure the survival and recovery of covered species. As the 2017 BiOp recommended, 600 cfs should be reached “as early as possible,” with flows ramping up to 300 cfs by year 5. In spite of this, the final proposal ramps up flows too slowly and never reaches 600 cfs. A critical issue such as this is required to be vetted during the NEPA process. *See* 40 C.F.R. § 1500.1(b) (“Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”). (COLW, 11 December 2020)

USFWS Reply

USFWS’ 2017 BiOp for the Upper Deschutes (USFWS, page 216, 2017) included a conservation recommendation stating:

Finalize and implement the Deschutes Basin HCP. In the context of natural hydrological water yield from the Upper Deschutes Basin, the Service recommends that the HCP mean winter flows of up to 600 cfs at WICO as early as possible with the following benchmarks: Year 5: 300 cfs, Year 15: 500 cfs, Year 20: 600 cfs.

Since 2017, USFWS and its cooperating agency experts have reviewed, revised and run many modeling scenarios to evaluate the opportunities for conservation in the Upper Deschutes River. Modeling results indicated 600 cfs winter flows from Wickiup Reservoir caused significant unintended consequences to providing minimum flows to meet the life history needs of all the life stages for the OSF given the highly degraded current condition of the Upper Deschutes River.¹ The proposal in the final DBHCP meets issuance criteria.

¹ Pers comm, Jennifer Johnson, U.S. Bureau of Reclamation, 15 December 2020.



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10**

1200 Sixth Avenue, Suite 155
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REGIONAL
ADMINISTRATOR'S
DIVISION

December 4, 2020

Bridget Moran
U.S. Fish and Wildlife Service
Bend Field Office
63095 Deschutes Market Road
Bend, OR 97701-9857

Dear Ms. Moran:

The U.S. Environmental Protection Agency has reviewed the U.S. Fish and Wildlife Service's Final Environmental Impact Statement for the Deschutes River Basin Habitat Conservation Plan (EPA Project Number 17-0034-FWS/CEQ Number 20200220) pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA submitted comments on the Draft EIS on December 3, 2019. In our comment letter, we recommended providing a more robust and comprehensive monitoring and adaptive management plan for several project elements, including water quality monitoring on the Crooked River and Whychus, McKay, and Ochoco Creeks and real-time flow monitoring for irrigation districts that require coordination of water management. In addition, we also recommended including an effectiveness monitoring commitment to conduct egg mass counts and habitat surveys at all known Oregon spotted frog breeding sites throughout the 30-year term of the DBHCP.

We appreciate the USFWS's response to our comments including the changes made to reporting noncompliance events in near-real time as possible and the addition of new adaptive management measures. Based on our review of the Final EIS, we highlight our remaining concerns and recommendations in the following comments.

Adaptive Management Measure OSF-1

In our Draft EIS comments, we emphasized the importance of describing the amount of funding needed for biologists to adequately complete annual OSF effectiveness monitoring and adaptive management measures at all known and potentially new OSF sites for the duration of the DBHCP. While we appreciate the inclusion of Adaptive Management Measure OSF-1 and its increase of annual monitoring funding to 240 hours per year (120 hour per biologist) (DBHCP p. 7-13), the USFWS did not provide a response on why this amount of funding would be adequate or why the amount was capped at 240 hours.

In addition, we note that no new effectiveness monitoring funding was included in the Final DBHCP for Chapter 10's "Contract Services for Monitoring." While the Final DBHCP includes new commitments from the North Unit and Tumalo Irrigation Districts (DBHCP p. 10-5 and 10-9, respectively), this funding is earmarked for compliance/implementation monitoring. Therefore, it is unclear how OSF-1 would be funded and what financial commitment is needed for Adaptive Management Measure WR-1.3, which requires the development and implementation of a variable flow tool.

As OSF habitat changes over time due to implementation of the covered activities and climate change (p. 4-9), robust and complete OSF effectiveness monitoring and adaptive management will be essential to demonstrate that the project will not exceed Incidental Take Permit take levels and that the DBHCP's overarching OSF biological goals and objectives are being achieved. Therefore, we recommend that the USFWS more thoroughly evaluate the appropriateness of funding for OSF-1 and WR-1.3. We further recommend that any conclusions presented in the ROD concerning these adaptive management measures explain the rationale behind the decisions. Additionally, we request that the 240-hour cap is eliminated and instead that the ROD commits the USFWS to annually evaluating the amount of funding needed based on the prior year's monitoring.

Adaptive Management Measure CP-1.2

According to the DBHCP, Adaptive Management Measure CP-1.2 would provide qualified biologists to monitor for signs of stranding of OSF tadpoles, juveniles and adults during Crane Prairie Reservoir drawdown for the first two years of the project and for two years out of 10 thereafter (DBHCP p. 7-14). However, it is unclear why biologists would not be provided annually since "the timing of metamorphosis in Crane Prairie Reservoir is based on a limited number of direct observations since 2013" and there is the possibility each year that "some OSF larvae may not complete metamorphosis and be capable of moving during reservoir drawdown in late July" (DBHCP p. 7-14). In the absence of scientific evidence on the timing of OSF metamorphosis, the proposed frequency of monitoring appears inadequate. We recommend that the ROD and DBHCP commit to annual monitoring of OSF stranding until the hydrograph maintains a more stable water interface, as confirmed by USFWS.

Thank you for the opportunity to review this Final EIS. We would appreciate receiving a copy of the ROD once it has been signed. If you have any questions, please contact me at 206-553-1778, or contact Sarah Samples, the lead reviewer for this project, at 415-972-3961 or samples.sarah@epa.gov.

Sincerely,



Karl Pepple, Acting Chief
Policy and Environmental Review Branch



Bridget Moran
Project Manager – Deschutes Basin Habitat Conservation Plan
United States Fish and Wildlife Service
63095 Deschutes Market Road
Bend, OR 97701

December 11, 2020
sent via email
bridget_moran@fws.gov

**SUBJECT: FINAL DESCHUTES BASIN HABITAT CONSERVATION PLAN (HCP)
COMMENTS/CONCERNS – TROUT UNLIMITED**

Dear Bridget:

The Deschutes Redbands Chapter of Trout Unlimited (TU) appreciates the opportunity to provide these summary comments on the final Deschutes Basin Habitat Conservation Plan (HCP). On December 3, 2019, TU provided comments on the draft HCP that expressed several concerns including: the conservation measures contained in the proposed alternative were insufficient to adequately protect key fish species or Oregon Spotted Frog (OSF); the monitoring and adaptive management regime for all species was insufficiently robust; and public engagement opportunities over the course of the HCP were inadequate. In short, TU was concerned that the HCP contained measures that did little more than maintain the status quo, an outcome inconsistent with ESA's overall goal of conservation. TU is appreciative that the final HCP contains some improvements including accelerated time frames for enhanced flows on the upper Deschutes, but it remains far short of what is required to meet the ecological needs of the HCP covered species over the permit term. To help remedy this, in part, TU provides six comments with recommendations/corrective actions that we believe will substantially improve the quality and efficacy of the proposed HCP conservation measures.

1. Transparency – Public Information – Progress Reporting

The final HCP does not provide adequate and on-going opportunities for public tracking of actions taken by the applicants toward meeting conservation measures. Chapter 7 of the HCP states that "all monitoring, reporting and adaptive management results will be compiled in the DBHCP annual report delivered to the Services, by January 31 of each year, with the first annual report due January 31, 2022." Reporting will include "any difficulties/deviations encountered implementing" the conservation measures. There are several exceptions for reporting of short-term deviations from compliance allowances. By limiting the reporting of HCP implementation to an *annual* report, real time issues affecting implementation of the conservation measures will not be known until after the fact. To maintain public trust and provide for greater public awareness, we ask that all reports and related documents relevant to the implementation of conservation measures of the HCP be made readily available to the public as they are submitted to USFWS. Toward this end, USFWS should establish and maintain a website that catalogues these documents as they are provided by the applicants. Given the amount of public investment via PL 566, this level of disclosure should be mandatory. Further, to improve transparency and public understanding of the quality and effectiveness of conservation measures, we ask that the HCP progress report be submitted on a semi-annual rather than annual basis.

2. Conservation Measure WR-1

The above transparency provision is particularly important in regards to conservation measure WR-1 because of the possibility of annual incremental winter flow increases above the specified minimums on the upper Deschutes. The HCP states that winter flows may be increased above the specified minimums under two conditions: 1) whenever inflow to the reservoir in a given year is predicted to be more than enough to fill the reservoir; 2) for years 1-7, minimum winter flow shall be increased above 100 cfs in proportion to the amount of live Deschutes River flow made available to NUID during the prior irrigation season as a result of piping of COID-owned canals. As stated, for each acre foot of live flow made available to NUID as a result of COID piping, an equal volume of water shall be added to the minimum winter flow from Wickiup.

Condition 1 is not likely to occur as discussed in the HCP on page 6-37. Given the fact that “it [Wickiup] will be more likely to end the season with little or no remaining storage,” history has shown that there is very little chance that Wickiup can overcome this starting deficit to actually fill in any given year. This leaves Condition 2 as the only/best option for increasing flows above the stated minimum. Understanding how the applicants are progressing toward increasing these minimum flows is essential to gaining the public’s support for the HCP. This can only be done through an on-going and public reporting mechanism as described above (see comment #1).

3. Changed Circumstance Pertaining to Year 8 and Year 13 Upper Deschutes Flows

Also regarding Conservation Measure WR-1, in years 1 -7, the HCP states that “no changed circumstance shall exist ...”, however, in future years (years 8 and 13) the HCP states that *a changed circumstance shall exist when a funding shortfall or legal challenge prevents COID from making at least 60,000 acre ft in year 8 (or in the case of year 2013, 90,000 acre ft) of replacement water available to NUID*. This language undermines the credibility of WR-1 as a long-term and legally binding commitment by the applicants to return flows to the upper Deschutes River with date certainty. There is no language in the HCP that defines either “funding shortfall” or “legal challenge”. It effectively converts what should be a mandatory hard target for returning flows, to a permissive option in terms of meeting longer range flow objectives. We believe that, like flows in years 1 – 7, flows in years 8 and 13 should not be subject to changed circumstance provisions.

4. Variable Flow Tool

Pages 6-20/21 and Section 7.3.3 of the HCP discuss development of a “variable flow tool” which is intended to determine actual winter flows from Wickiup beginning in year 13. The HCP goes on to state that a prototype of this tool will be developed by the end of year 10 of HCP implementation. The tool will model available storage in Wickiup and anticipated inflow to the reservoir during the storage season. The HCP states that the target reservoir storage volume at the end of the storage season is at least 92,000-acre ft. A tool like this is fundamental to managing Wickiup storage and flows into the upper Deschutes. It is remarkable that such a tool, acceptable to all the applicants and regulatory agencies, is not already in place. Accordingly, the final HCP should accelerate development and adoption of this variable flow tool with a target of year 8 for full implementation of this model...at the latest. Again, public involvement in this model development process must be assured.

5. Turbidity and Future Wickiup Storage Management

The September 2020 drawdown of Wickiup Reservoir to an unprecedented 1% of storage capacity resulted in a two-week discharge of sediment that created an unacceptably high level of turbidity throughout the 55-mile reach of the Deschutes, from Wickiup to Bend. It is believed that this level of sediment discharge over this long a time period has never happened before. Preliminary analysis indicates that sediment build-up within the old Deschutes River channel in Wickiup Reservoir was eroded and transferred through the headworks of the dam by the live flows of the Deschutes. By reducing storage to 1%, these sediments became exposed to the erosive force of the Deschutes River live flows. Later in September, when storage was allowed to increase above 1%, the turbidity was reduced. The resulting impacts on OSF habitat are not known, but future Wickiup storage management decisions must consider this year's turbidity event and not allow it to be repeated.

In addition, if drawing down Wickiup to low levels becomes routine, we are concerned about the impacts on the OSF due to predatory fish (brown trout and bullhead) being flushed out of the reservoir and into the upper Deschutes.

With hard metrics guiding adaptive management, deep draw-downs of Wickiup should be analyzed for their effects on meeting the biological goals and objectives. This analysis should then drive any necessary modifications to the conservation measures for continued species protection. Ideally, such information gathering and analysis would be shared with the public to promote transparency and provide assurance of species protection.

The final HCP must consider BOTH water quantity and water quality impacts in adopted conservation measures regarding Wickiup and the upper Deschutes.

6. Return Flows and Water Quality

Trout Unlimited's 12/3/19 comments on the draft HCP emphasized concerns regarding water quality impacts from irrigation return flows. These return flows impact water quality to the Crooked River as well as tributaries of Trout Creek. The two irrigation returns operated by NUID to Trout Creek are particularly critical because of its status as the key salmonid rearing and steelhead spawning stream in the lower Deschutes River. It is imperative that everything possible be done to restore and protect this "designated critical habitat". NUID is responsible, in part, for the cumulative water quality impairment that is occurring and therefore has some responsibility to mitigate that impact. NUID should be a partner in a comprehensive program to rehabilitate this stream particularly regarding agricultural runoff, habitat rehabilitation and water temperature. The language in the final HCP repeating the draft HCP's mantra that "...conditions will not change under the DBHCP" with regard to steelhead spawning, migration, egg incubation or winter rearing is not the basis for scientific assurance nor a collaborative partnership with NGOs or the public. Simply reciting that the timing of irrigation return flows makes them a "net benefit" to overall water temperature and water quality is not based on the best available information. Stating that agricultural pollutants contained in return flows are not NUID's responsibility does not further the cause of conservation groups and irrigation districts working together for a common goal. While the three conservation funds established through the HCP for

the upper Deschutes River, Whychus Creek and Crooked River would be useful models for Trout Creek both in terms of steelhead recovery and public partnership; all of the conservation funds should address water quality. We recommend a separate Trout Creek conservation fund that addresses improved steelhead spawning and Trout Creek water quality. This fund's activities and progress toward improved water quality in Trout Creek should be reported annually to the public.

Conclusion

The Deschutes Redbands Chapter of Trout Unlimited recognizes that, although improvements have been made in the final HCP, the proposed conservation measures are insufficient to adequately protect key fish species or the OSF. We encourage the USFWS to facilitate the following changes to the conservation measures and procedures in coordination with the irrigation districts:

- 1) all reports and related documents relevant to the implementation of conservation measures of the HCP be made readily available to the public as they are submitted to USFWS;
- 2) understanding how the applicants are progressing toward increasing winter minimum flows on the upper Deschutes (Conservation Measure WR-1) is essential to gaining public support for the HCP, which can only be done through an on-going and public reporting mechanism;
- 3) regarding Conservation Measure WR-1, flows in years 8 and 13 should not be subject to changed circumstance provisions, similar to the HCP's provision for years 1 through 7;
- 4) the development of the "variable flow tool" should be accelerated to provide full implementation by Year 8;
- 5) regarding Wickiup Reservoir storage management and upper Deschutes flows, both water quantity and water quality impacts on adopted conservation measures should be regularly assessed through information gathering to allow for adaptive management and modification if needed. This information should be shared with the public to promote transparency and revised mitigation measures should be implemented in a manner that provides assurances of species protection;
- 6) a separate Trout Creek conservation fund should be established that promotes improved steelhead spawning and water quality.

TU believes that our recommendations and corrective actions can be readily accommodated and, if implemented, will improve transparency while conserving biological species and mitigating detrimental environmental practices.

This letter reflects the unanimous position of the Deschutes Redbands HCP Committee members all of whom sit on the Chapter's board. The committee members are listed below.

Sincerely,



Shaun Pigott, President
Deschutes Redbands Chapter – Trout Unlimited

Mike Tripp	Jodi Wilmoth	Steven Goldberg	Herb Blank
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December 11, 2020

Filed via email: bridget_moran@fws.gov

U.S. Fish and Wildlife Service, Bend Field Office
Attn: Bridget Moran, Field Supervisor
63095 Deschutes Market Road
Bend, OR 97701

Re: Comments on Final Deschutes Basin Habitat Conservation Plan and Final Environmental Impact Statement

INTRODUCTION

Central Oregon LandWatch (LandWatch) submits these comments on the Final Deschutes Basin Habitat Conservation Plan (DBHCP or HCP) and Final Environmental Impact Statement for the Deschutes Basin Habitat Conservation Plan (FEIS). These comments supplement our comments submitted on December 3, 2019 on the Draft HCP and Draft Environmental Impact Statement (12/03/2019 Comments). The purpose of these comments is to provide input on changes made to the Final HCP and FEIS since the Draft HCP and DEIS. LandWatch is concerned that even after receiving thousands of public comments calling for stronger and swifter conservation measures to ensure the survival and recovery of the covered species, the DBHCP still does not comply with Section 10 of the ESA and that the USFWS and NMFS (Services) will be in violation of their legal duties should they issue findings to the contrary.

Moreover, the changes between drafts and finals EIS are significant and substantial. This Letter details a handful of such changes, but LandWatch did not have the capacity to address every change in this limited window, outside of any formal comment period. Before taking final action on this critical proposal that will dictate water management in the Deschutes Basin for the next 30 years, the Services should prepare a supplemental EIS and allow the public, other agencies, and stakeholders a full and fair opportunity to provide comments. *See* 40 C.F.R. § 1502.9(c) (2019).¹

¹ Changes were made to NEPA's implementing regulations in 2020, but as the FEIS notes, this action is subject to the previous regulations. FEIS at 1-4 n.5.



UPPER DESCHUTES

I. The Final HCP's delay until year 8 to improve winter flows in the Upper Deschutes is a significant change from the Draft HCP and will exacerbate ongoing harm to the covered species.

The Final HCP/FEIS proposes to provide no additional winter streamflows to the Upper Deschutes until year eight, meaning that winter flows of 100 cfs would continue for seven years. This represents a significant change from the draft, which proposed flows of 200 cfs by year six. Presentation of this significant change in the Final HCP/FEIS without a formal opportunity for public review is contrary to NEPA. A supplemental EIS should be prepared to provide the public an opportunity to understand and comment on this change.

As LandWatch's 12/03/2019 Comments detailed, achieving higher winter flows more quickly is both practicable and necessary to support the survival and recovery of the Oregon spotted frog. The apparent justification for not improving winter flow targets sooner is that ramping up flows would harm Oregon spotted frog populations. HCP at 6-24 ("a complete return to natural flows would have a negative impact on Oregon spotted frog habitats[.]") We find no support for this conclusion in the HCP or FEIS as to winter flows. With current winter minimum flows of 100cfs, it is easy to observe that no emergent vegetation that would support Oregon spotted frog habitat exists at the at water line. Figure 1, below, shows how vegetation along the Upper Deschutes is already disconnected or "perched" from the water line during winter months. While high flows without appropriate caps in the summer can impact this vegetation, increasing winter flows sooner would not impact this disconnected habitat and in fact would help reconnect it sooner.





Figure 1. Perched wetlands above the river channel during low (100 cfs) winter flows in the Upper Deschutes River. Photo by Central Oregon LandWatch, October 23, 2020, approximately 2 miles downstream from Wickiup Dam.

If there were support for the proposition that increasing winter flows could harm existing Oregon spotted frog habitat, then flows could be increased gradually starting in year 0, perhaps at 50 cfs per year. This could be accompanied by corollary decreases to summer maximum flows, and would allow existing emergent vegetation to slowly “migrate” to the more stable year-round flows that the HCP should accomplish at the end of its term.

II. Caps on Upper Deschutes summer flows are unnecessarily delayed and accompanied by a major loophole.

Conservation measure WR-1 in the HCP now includes caps on summer flows in the Upper Deschutes that begin in year eight and increase in year 13. HCP at 6-20. As an initial point, caps on summer flows should begin in year zero. Capping summer flows will immediately help



preserve Oregon spotted frog habitat, and will support maintenance of minimum winter flows by increasing the chance that stored water is not depleted at the end of irrigation season.

Even when the summer caps do begin in year eight, though, they are accompanied by a glaring loophole. HCP at 6-20 (“Beginning no later than Year 8 of DBHCP implementation, flow at WICO shall be at least 300 cfs from September 16 through March 31, and **not more than 1,400 cfs for more than 10 days per year** between April 1 and September 15.”) (emphasis added). Allowing ten days per year of deviations from summer caps could wash away critical Oregon spotted frog habitat, and would likely allow ongoing bank erosion to persist and become a major obstacle to the reestablishment of the riparian vegetation that Oregon spotted frog require for successful breeding.

This loophole is presented without rationale or justification for how it is needed to meet the HCP’s conservation goals. The FEIS fails to present the impacts of this loophole on the affected environment and the covered species. The HCP also fails to identify thresholds within which the 10-day summer cap loophole would be acceptable. Will these exceedances be 10 cfs or 500 cfs? Without providing this information, the HCP and FEIS fail disclose and analyze the environmental effects of this summer flow cap loophole. The Services should prepare a supplemental EIS accompanied by meaningful opportunity for public comment on this loophole.

III. Variable flow tool.

The final HCP introduces a variable flow tool at Conservation measure WR-1 and Section 7.3.3, *Wickiup Reservoir and Upper Deschutes River* that will “be used to establish the September 16 to March 31 minimum flow at WICO each year based on available storage in Wickiup Reservoir at the beginning of the storage season and anticipated inflow to the reservoir during the storage season.” HCP at 6-21.

Relying on available storage in Wickiup at the beginning of the storage season ignores the fact that the river is badly over-appropriated. Six irrigation districts vie for Deschutes Basin water and there are enough existing water rights to drain Wickiup Reservoir every year. The districts are entirely in control of the amount of remaining storage at the end of the irrigation season. Under this variable flow tool, there would be a strong disincentive to save stored water and 500 cfs of winter flow would rarely, if ever, be achieved.

LandWatch argued in our DEIS comments for real variable flow targets – ones established each year based on water year that would provide more streamflow in good years and less in dry years. The historical record indicates that in normal to wet years the upper basin generates far more water than Wickiup can store, often resulting in dam operators dumping water in February or March. The variable flow conservation measure presented in the HCP completely ignores the large variability of annual water supply in the Upper Deschutes.

IV. The allowed deviations from Upper Deschutes minimum flows at the WICO gauge in the HCP/FEIS are unnecessary.



New to the HCP but absent from the Draft HCP/DEIS is Table WR-1 which includes a column called “Allowable Range of Deviation.” HCP at 6-22. The values in this column allow the covered parties to deviate from otherwise required streamflows. For the WICO gauge just below Wickiup, a deviation of 10 cfs in minimum winter flows is allowed for years 1-7 and 20 cfs for years 8-12. The outflow from Wickiup is calibrated reasonably precisely and there is no legitimate reason for deviation from mandatory flows just below Wickiup, where none of the other factors stated at HCP page 6-32 are present. With this allowed deviation at WICO, nothing will prevent the covered parties from maintaining winter flows of 90 cfs (years 0-7) or 280 cfs (years 8-12) all winter instead of the 100 cfs and 300 cfs “mandatory” flows otherwise required. To put these deviations in context, COID is spending about \$42 million public dollars to pipe an 8-mile segment of its Pilot Butte canal, conserving about 30 cfs of water. The HCP’s allowed deviations of 10-20 cfs at WICO are absurd when they can be prevented at no cost through the Wickiup dam’s precise outflow control system.

V. The reliance on some methods of water conservation as HCP conservation measures, but not others, is arbitrary and capricious.

The proposed action’s conservation measures now include some methods of water conservation expected to aid the covered parties’ ability to meet streamflow targets in the Upper Deschutes. Specifically, piping of district-owned canals in Central Oregon Irrigation District is part of conservation measure WR-1 F. HCP at 6-20 (“For each acre-foot (or portion thereof) of live flow made available to NUID as a result of the piping of COID owned canals after the date of incidental take permit issuance, an equal volume of water shall be added to the minimum flow below Wickiup Dam from September 16 through March 31.”)

The covered parties have many methods of water conservation at their disposal. As our DEIS comments including the Heisler expert report demonstrated, some of those methods are far more efficient, more inexpensive, and more practicable than others. The final HCP and FEIS approve one method of water conservation – piping of district-owned canals – as an appropriate measure for minimizing and mitigating take of covered species. Yet the other methods of water conservation are not considered. This approval in the absence of comparison to other methods is arbitrary and capricious.

WHYCHUS CREEK

The Final HCP’s conservation measures for Whychus Creek fail to provide new benefits for listed species and are insufficient to meet the ESA’s requirement that the HCP minimize and mitigate to the maximum extent practicable the impacts of the covered parties’ take.



I. Flows

As compared to the Draft HCP, the Final HCP's Objective 1-A for Whychus Creek proposes weaker habitat conditions for the covered species. Whereas the Draft HCP called for "increase [in] streamflow," Draft HCP at 6-63, the Final HCP only requires the covered parties to "[m]aintain increased instream flows in Whychus Creek during the irrigation season above historical (pre 2010) levels." HCP at 6-76 (emphasis added). Simply maintaining existing flows in Whychus Creek will ensure ongoing harm to the covered species will continue. Further, these existing streamflow targets are not tied to needs of fish. They appear to be only tied to what Three Sisters Irrigation District (TSID) has previously dedicated for instream use pursuant to state law. The Endangered Species Act requires more.

Conservation measure WC-1 references past actions and does not propose new conservation for Whychus Creek:

"Three Sisters Irrigation District (TSID) will pass all water the District has converted to permanent instream water rights on Whychus Creek (currently 31.18 cfs) at its diversion. In addition, TSID will pass all water required under Oregon water law to senior water right holders downstream of the TSID diversion (currently 3 cfs), for a combined minimum flow past the TSID diversion of 34.18 cfs." (HCP at 6-77)

Although stated differently as compared to the Draft HCP, this conservation measure again proposes no new water conservation for Whychus Creek. The work and funding that previously resulted in conversion of irrigation water rights to instream water rights has already occurred, and should be included as part of the current conditions and baseline information, not as a prospective conservation measure.

Further, the 34.18 cfs referenced in WC-1 is paper water, not wet water, and will not result in actual flows of that amount. This is because the instream rights have to be shared proportionally with irrigation rights and Whychus Creek never has sufficient flow in late summer to serve all the water rights. Every year, usually beginning in the second half of July, the water rights are regulated down, and fish suffer due to deficient flows.

HCP Objective 1-C is to "[s]upport efforts to increase summer instream flows, decrease peak summer temperatures and enhance habitats for covered species in lower Whychus Creek." HCP at 6-76. The rationale for this objective states that "Objective 1-C directs TSID to support ongoing efforts by the Upper Deschutes Watershed Council (UDWC), Deschutes River Conservancy (DRC) and others to reduce peak temperatures (as indicated by maximum 7-DADM of $\leq 20^{\circ}\text{C}$ at RM 6.0) by increasing instream flows and improving physical and biological habitat conditions." HCP at 6-76.

Supporting the work of other organizations will not result in enforceable, guaranteed minimization and mitigation of take of the covered species. Other organizations are not covered parties, and TSID cannot take credit for conservation measures to be fulfilled by other parties that would not be subject to any incidental take permits. TSID is the largest of several parties diverting water from the creek, and it holds about 78 percent of the water rights for the creek.



TSID's approximately 150 cfs in water rights and the potential to transfer some of those water rights to instream use outweighs any other restoration option on the creek by a long shot. Temperatures of 20 degrees C at river mile 6 is a good goal, but it cannot be achieved by the DRC and UDWC without more instream flow below TSID's diversion. TSID needs to establish a minimum flow of 49 cfs to achieve the 20 degree C target.

Similarly, conservation measure WC-4 states that "TSID will assist with the piping of patron-owned canals (patron laterals) within TSID." HCP at 6-78. This is also speculative, imposes no requirements on the covered party (TSID), and instead relies on the work of others (private patrons). There are no guarantees that piping of patron-owned canals will happen, nor are there guarantees that any resulting conserved water will be transferred to instream use.

II. Temperature

New to the Final HCP is a section in Chapter 9 called "9.10 Change in the Status of Whychus Creek." This section begins by stating that incidental take coverage for steelhead trout is contingent on continually decreasing water temperatures in Whychus Creek:

"Incidental take coverage for steelhead trout on Whychus Creek is based on the presumption that peak summer water temperatures in the creek will continue to decrease over time as a result of increases in instream flows as well as ongoing and future habitat enhancement activities funded by TSID and others the need for decreasing water temperatures in Whychus Creek to support recover of steelhead." (HCP at 9-10, 9-11).

This presumption of decreasing stream temperatures has already proven false. TSID canal piping was largely completed by 2015. TSID's stated position since then has been to keep a minimum flow of 20 cfs below its diversion, the minimum flow established under the HCP. At this flow, the Creek already reaches temperatures far above 20 degrees C for much of the summer.

Section 9.10 then mandates temperature monitoring and the possibility that TSID will lose incidental take coverage if temperatures do not decrease after the first 10 years of the HCP period.

TSID should not be allowed 10 years to decrease temperatures when they have committed no more water instream. Modeling by UDWC indicates that streamflow is the dominant effect on stream temperature. 80% of temperature change is attributed to stream flow and only 20% to air temperature. Maintaining a minimum flow of 20 cfs, without additional instream flow commitments from TSID, cannot possibly achieve the 20 degree C target.

We already know that the 20 cfs minimum flow does not achieve the 20 degree C target. As TSID has maintained 20 cfs instream over the past five years, temperatures at RM 6 have far exceeded this target already. For example, temperature data from the UDWC shows that in the summer of 2018 temperatures at RM 6 exceeded 20 degrees C from June 21st to August 21st, 2018. They exceeded 24 degrees C from July 13th and July 31st, 2018. In the summer of 2019,



temperatures exceeded 20 degrees C from July 7th to September 5th, 2019 and exceeded 24 degrees C from July 29th to August 6th, 2019.² There is no need to wait ten years to evaluate the effects of TSID's minimum flow. Furthermore, habitat restoration by UDWC and flow restoration by the DRC cannot be expected to cool temperatures sufficiently given the extremely warm temperatures (> 24 degrees C) being experienced today under TSID's 20 cfs minimum flow. And air temperature increases projected under all climate change scenarios only makes this worse.

If decreasing water temperatures in Whychus Creek is a key component of TSID receiving incidental take coverage, then it should be included as a conservation measure in Chapter 3 of the HCP. Placing this discussion of water temperature in Chapter 9 Changed and Unforeseen Circumstances indicates that temperature standards are not enforceable minimization and mitigation conservation measures for which TSID cannot receive credit for meeting its ESA obligations.

These changes on the treatment of Whychus Creek in the Final HCP/FEIS are significant and are presented to the public for the first time in the Final project documents without opportunity for public review and comment. The Services should prepare a supplemental EIS accompanied by formal opportunity for public comment.

RIVERWARE MODEL

In the updated FEIS RiverWare model, some HCP conservation measures and other anticipated methods of water conservation are included, while others are not. The effects of the covered parties' water conservation projects completed before 2014 on streamflow and irrigation diversions—like certain canal piping and lining projects—are reflected in the RiverWare model outputs. *See* FEIS Appx. 1-E Response to Comment at 264. Additionally, the future COID Watershed Plan Environmental Assessment for the Smith Rock-King Way Infrastructure Modernization Project's effects have been incorporated into the FEIS RiverWare model. *Id.* Other Conservation Measures, however, are not incorporated into the model; this includes water conservation projects for which final NEPA review was completed. *Id.* This decision to exclude certain projects but not others is not thoroughly explained and is thus arbitrary and capricious.

To try and account for the exclusion of these conservation measures from the RiverWare model, the agency states that “effects of these projects on streamflows . . . were quantified in the Final EIS analysis outside of the RiverWare model.” *Id.*

The only Conservation Measure explicitly named and included in the RiverWare model was WC-1 and the addition of 3.0 cfs to Whychus Creek. The FEIS states that “effects related to other conservation measures for Whychus Creek [Conservation Measures WC-2 through WC-7] were evaluated qualitatively” and thus not included in the RiverWare Model. FEIS at 3.2-3. No

² Exhibit 1 to these comments is a spreadsheet of Whychus Creek temperature data collected by UDWC from 2005-2019.



other explanations are provided for why this measure alone was included in the RiverWare model.

Additionally, glaringly missing from the model are the potential effects of climate change on surface water, ground water, and the water supply. These were only assessed “qualitatively” and thus not included in the final RiverWare model. FEIS at 3.2-4. The available tools for modeling climate change impacts are numerous and comprise the best available science. Omitting any quantitative analysis is inconsistent with the Service’s legal duties.

2017 BIOP

USFWS’s 2017 BiOp for the Upper Deschutes calls for flows in the Upper Deschutes of 600 cfs to meet the needs of the covered species. Although the final proposal calls for reaching 400-500 cfs flow more quickly than the draft (by year 13 as opposed to year 21) this proposal still falls short in terms of flows and timing. The science underpinning the analysis that informed the 2017 BiOp has not changed. Without planning to achieve 600 cfs flows, the HCP continues to fall short of meeting the requirements of the ESA to ensure the survival and recovery of covered species. As the 2017 BiOp recommended, 600 cfs should be reached “as early as possible,” with flows ramping up to 300 cfs by year 5. In spite of this, the final proposal ramps up flows too slowly and never reaches 600 cfs. A critical issue such as this is required to be vetted during the NEPA process. *See* 40 C.F.R. § 1500.1(b) (“Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.”).

CONCLUSION

LandWatch appreciates the extensive efforts on the part of the Services to prepare the FEIS. We are hopeful that these comments, read in conjunction with our 12/03/2019 Comments will aid the Services in making their final decisions.

While we remain disappointed in the scope of practicable solutions put forth for meeting the needs of the covered species over the permit term, we do believe that the Services would be best served in selecting Alternative Four, with slight modifications.

Alternative Four in the FEIS presents a much better action alternative on the Deschutes, recognizing the dire condition of Oregon spotted frog habitat and the need for swift, assertive action. Alternative Four would be improved with the inclusion of summer caps down to 1200 cfs and a 30-year term. By increasing winter flows immediately to 300 cfs and phasing in a summer cap, the stream banks and riparian vegetation upon which the Oregon spotted frog depends for its many life cycle stages can begin to recover right away rather than wait another eight years as in the proposed action.

From year six to the end of the permit term, Alternative Four recognizes the critical need to try to reach a winter flow of 600 cfs as soon as possible. The institution of variable flow management in this alternative would enable the 600 cfs target to be met sooner than under a system of fixed



targets. In wet years when the hydrology is favorable, 600 cfs can be maintained instream and 400 cfs is appropriate in dry years.

Disappointingly, Alternative Four is no better for Whychus Creek, but it does make an important improvement on the Crooked River, raising minimum flow from 50 cfs to 80 cfs.

Alternative Four is practicable if the applicants coordinate their conservation actions and implement the full suite of options available to them including canal piping (particularly private laterals), on-farm conservation, and redistribution of water through financial incentives. It should be selected, with the improvements noted above, because it best comports with the agency's legal requirements.

Sincerely,



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Attachments

Exhibit 1 Spreadsheet of 1995-2019 Whychus Creek temperature data.

